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ENGLISH BOTANY;

OR,

COLOURED FIGURES

OF

BRITISH PLANTS,

WITH THEIR

ESSENTIAL CHARACTERS, SYNONYMS,

AND PLACES OF GROWTH.

TO WHICH WILL BE ADDED,

OCCASIONAL REMARKS.

BY

JAMES SOWERBY, F.L.S.

VOL. III.

L O N D O N:

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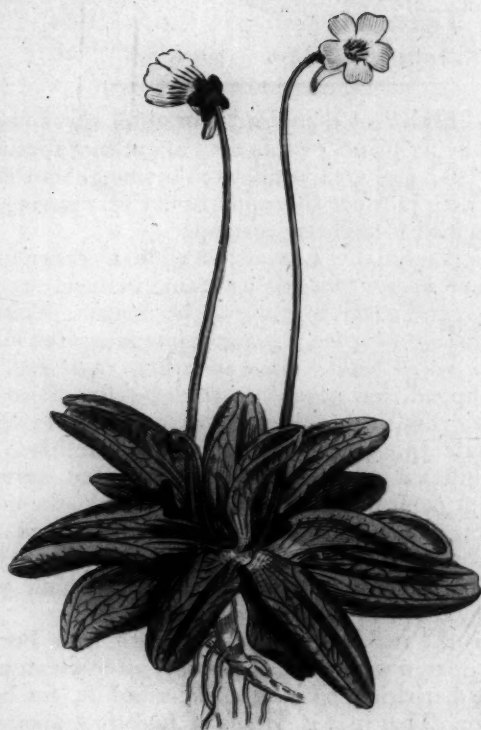
JAMES SOWERBY, F.R.S.

VOL. III.



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And sold by Mr. J. DAVIS,
Bookbinder, F.R.S.,
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and Bookbinder, F.R.S.

WINDSOR.



PINGUICULA lusitanica.

*Pale Butter-wort.**DIANDRIA Monogynia.*

GEN. CHAR. *Cor.* ringent, spurred. *Cal.* two-lipped, with five segments. *Capsule* of one cell.

SPEC. CHAR. Nectary blunt, shorter than the petal. Stalk hairy. *Capsule* globose.

SYN. *Pinguicula lusitanica.* Linn. *Sp. Pl.* 25. *Huds. Fl. An. ed.* 1. 7.

P. villosa. *Huds. Fl. An. ed.* 2. 8. *With. Bot. Arr.* 17. *Lightf. Fl. Scot.* 77. t. 6.

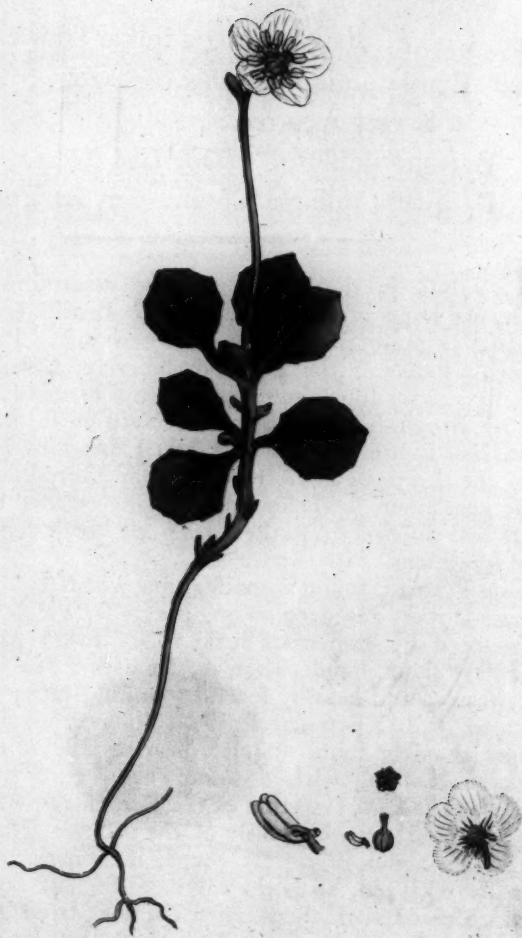
P. flore minore carneo. *Raii Syn.* * 281.

DR. PULTENEY of Blandford Dorsetshire was so obliging as to send us living plants of this very interesting species in the end of June last, gathered on bogs in his neighbourhood, and we embrace with pleasure the opportunity of clearing up that obscurity in which it has been enveloped.

The root is perennial. Leaves like those of other species of this genus, but rather more delicate and pellucid, reticulated with red veins, and much involute in the margin. Stalks hairy, especially in their lower part, with short spreading glandular hairs tipped with a viscid fluid. Flowers a little nodding. Calyx scarcely two-lipped, but almost equally 5-cleft. Tube of the corolla nearly cylindrical, yellow streaked with red; limb in 5 equal obcordate spreading segments, of a pale lilac; orifice hairy; spur inflated at the base, then contracted, terminating in a very blunt conical figure, and when dried (the only state in which Linnæus saw it) much thicker at the end than at the middle, streaked with red. Stamina flattish. Germen hairy. Stigma blunt, excavated on the upper side. *Capsule* perfectly globular, crowned with the withered stigma.

That this is the real *P. lusitanica* we learn from Portuguese specimens compared with those of Griseley, after which probably (seen in some herbarium) Linnæus described it, for he had it not in his own. That it is *P. villosa* of Lightfoot appears from a specimen from Skye, given to Dr. Smith by the Rev. Mr. Stuart, as well as from the figure in *Flo. Scot.* Neither can there be any doubt of its being what Ray and Hudson intended.

The better to distinguish this species from others we may remark that *P. vulgaris* has an unequal limb, sharp slender spur, and oval capsule: *P. alpina* a very short conical spur, and a long rostrated capsule: *P. villosa* a slender sharp spur, and obcordate compressed capsule, with short round leaves. Its hairy stalk and regular limb agree nearly with *P. lusitanica*, but the *villosa* is the smaller in all its parts.



J. A. Smith, Dec. 1793

PYROLA uniflora.

*Single-flowered Winter-green.**DECANDRIA Monogynia.*

GEN. CHAR. *Cal.* 5-cleft. *Petals* 5. *Capsule* 5-celled,
bursting at the angles.

SPEC. CHAR. Stalk bearing a solitary flower.

SYN. *Pyrola uniflora.* *Linn. Sp. Pl.* 568. *Fl. Dan.*
t. 8. very incorrect.

P. scapo unifloro. *Hall. Hist.* 1011.

P. quarta minima Clusii. *Ger. em.* 408.

HAVING in the preceding page determined an obscure plant, we hope in this to afford the British botanist no less pleasure in presenting him with a new one. *Pyrola uniflora*, though a native of the Lapland, Norway, German and Swiss alps, was never supposed to grow in our island till James Brodie Esq. of Brodie-house in Scotland found it in that neighbourhood last summer, when also Mr. James Hoy F. L. S. sent it to the Linnean Society from near Gordon Castle. Both these gentlemen we believe are equally entitled to the honour of its first discovery; to the former we are indebted for recent wild specimens.

This *Pyrola* is found in moist alpine woods: its long branched perennial roots run deep among the moss, which in such places is watered by numerous little rills. Every part is smooth. The stem short, simple, angular, set with a few alternate concave scales, and bearing several roundish, more or less obtuse, serrated, veiny, petiolate leaves. Stalk terminal, erect, much longer than the stem, angular, bearing seldom more than one concave bractea, with a solitary flower of great elegance, compared by Clusius to that of the *Parnassia* (t. 82), and possessing all the fragrance of Lily of the valley. This flower is in perfection about July. Its corolla is sometimes streaked externally with red, as is the calyx. Linnæus and Haller have well observed that the stamina are not placed regularly with respect to the petals, some of the latter having 3 stamina next them, others 2, and others but 1. The antheræ are of a most curious figure, 4-lobed, with two tubes at the base by which probably the pollen is discharged. The stigma resembles a 5-rayed crown.

PIYOT A. WILSON

Single-Handled Wristle-System

DOE AND CO. S. W. Wilson

Gen. Chas. Col. 4th Reg. 2nd Cavalry

Washington D. C.

Dear Sir: I have the honor to acknowledge the receipt of your letter of the 10th inst.

and in reply to inform you that the same has been forwarded to the proper authorities for their consideration.

I am, Sir, very respectfully,

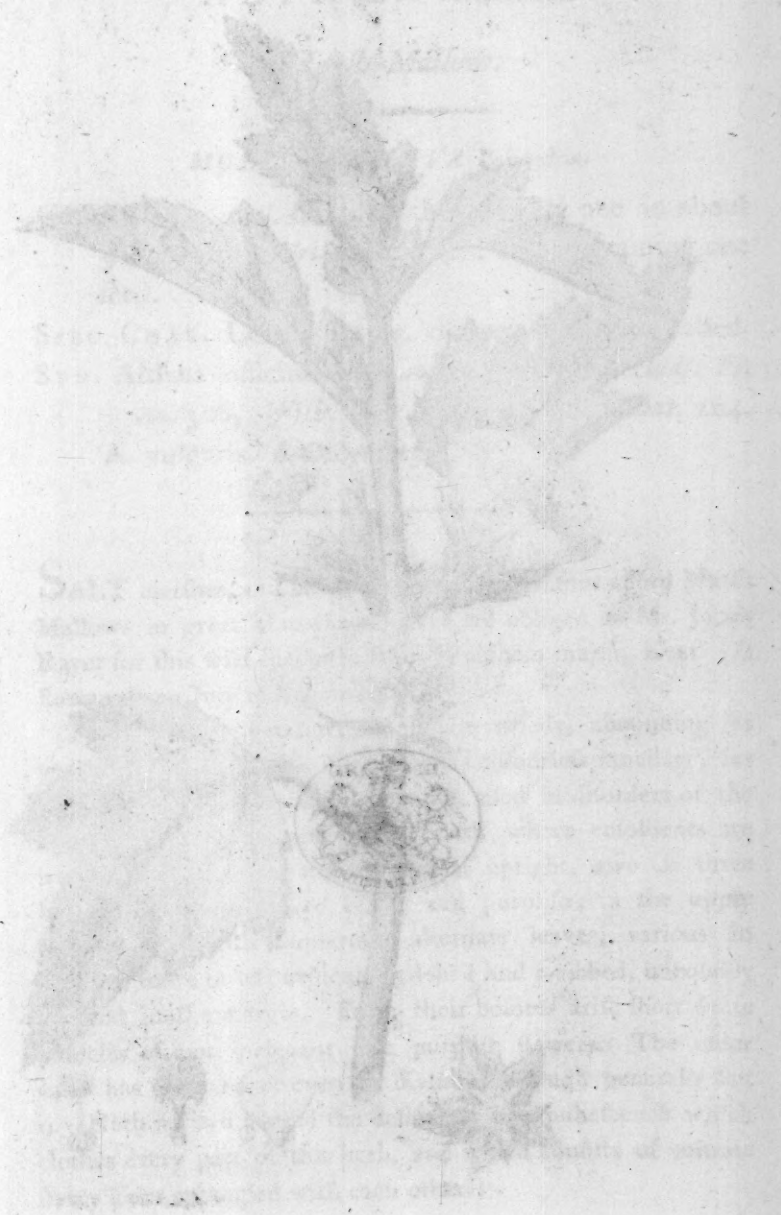
Your obedient servant,

W. Wilson

It is a great pleasure to me to hear that you are so well and that you are so much interested in the progress of the cause. I am sure that you will be very successful in your efforts. I am, Sir, very respectfully,

Your obedient servant,
W. Wilson

ADITHIA officinalis





J. Schurby del. Dec. 1793.

ALTHÆA officinalis.

Marsh Mallow.

MONADELPHIA Polyandria.

GEN. CHAR. *Cal.* double; the external one in about 9 segments. *Arilli* numerous, each containing one seed.

SPEC. CHAR. Leaves simple, downy, slightly 5-lobed.

SYN. *Althæa officinalis*. *Linn. Sp. Pl.* 966. *Huds. Fl.*

An. 306. *With. Bot. Arr.* 735. *Relb. Cant.* 264.

A. vulgaris. Raii Syn. 252.

SALT marshes, and banks of ditches in the fens afford Marsh Mallows in great abundance. We are obliged to Mr. Jacob Rayer for this wild specimen from Woldham marsh, Kent. It flowers from July to September.

The roots are perennial, long and woody, abounding (as well as the herb) with a pure tasteless colourless mucilage, for which reason its decoction is much used in disorders of the kidneys or bladder, and in all cases where emollients are wanted. The stems are numerous, upright, two or three feet high, round, naked below and purplish; in the upper part covered with numerous alternate leaves, various in breadth, more or less evidently 5-lobed and 5-ribbed, unequally serrated in the margin. From their bosoms arise short dense panicles of not inelegant pale purplish flowers. The outer calyx has often 10 or even 12 divisions, though generally but 9. Nothing can exceed the delicately soft pubescence which clothes every part of this herb, and which consists of minute starry hairs entangled with each other.

ALFRED A. OFFICIALS.

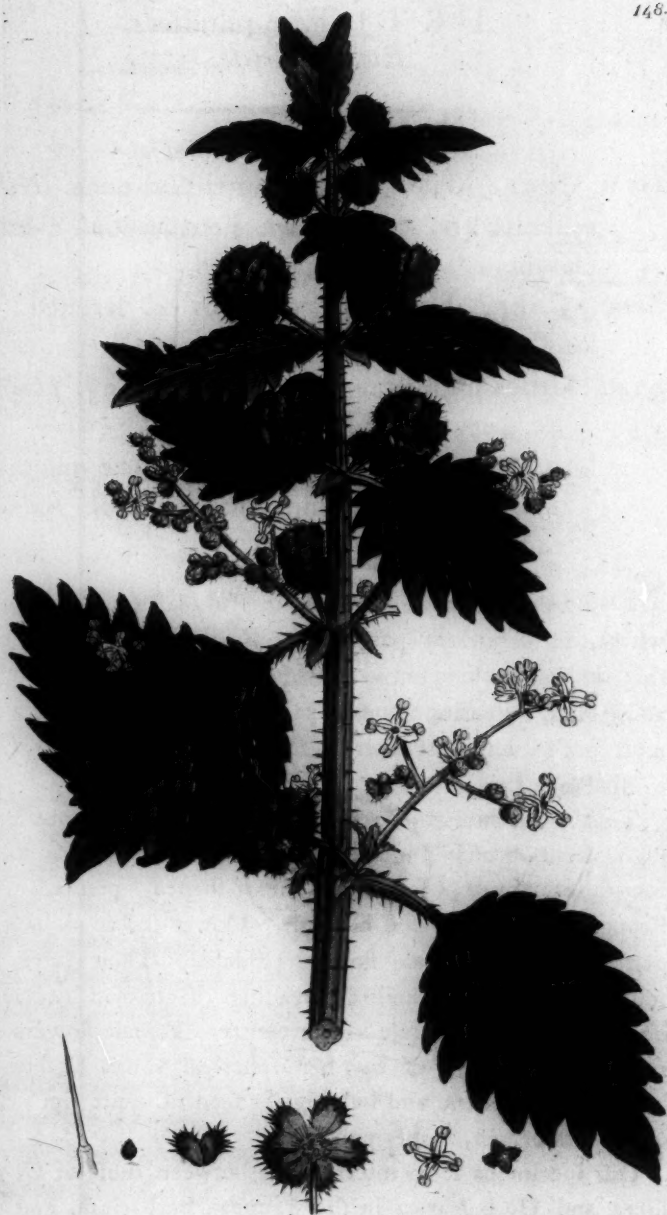
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J. A. Smith del. Dec. 1793.

URTICA pilulifera.
Roman Nettle.

MONOECIA *Tetrandria.*

GEN. CHAR. Male. *Cal.* 4-leaved. *Cor.* none. *Nectary* in the centre, cup-shaped. Female. *Cal.* 2-leaved. *Cor.* none. *Seed* one, polished.

SPEC. CHAR. Leaves opposite, ovate, ferrated. Catkins of fruit globose.

SYN. *Urtica pilulifera.* *Linn. Sp. Pl.* 1395. *Huds. Fl. An.* 417. *With. Bot. Arr.* 1070.

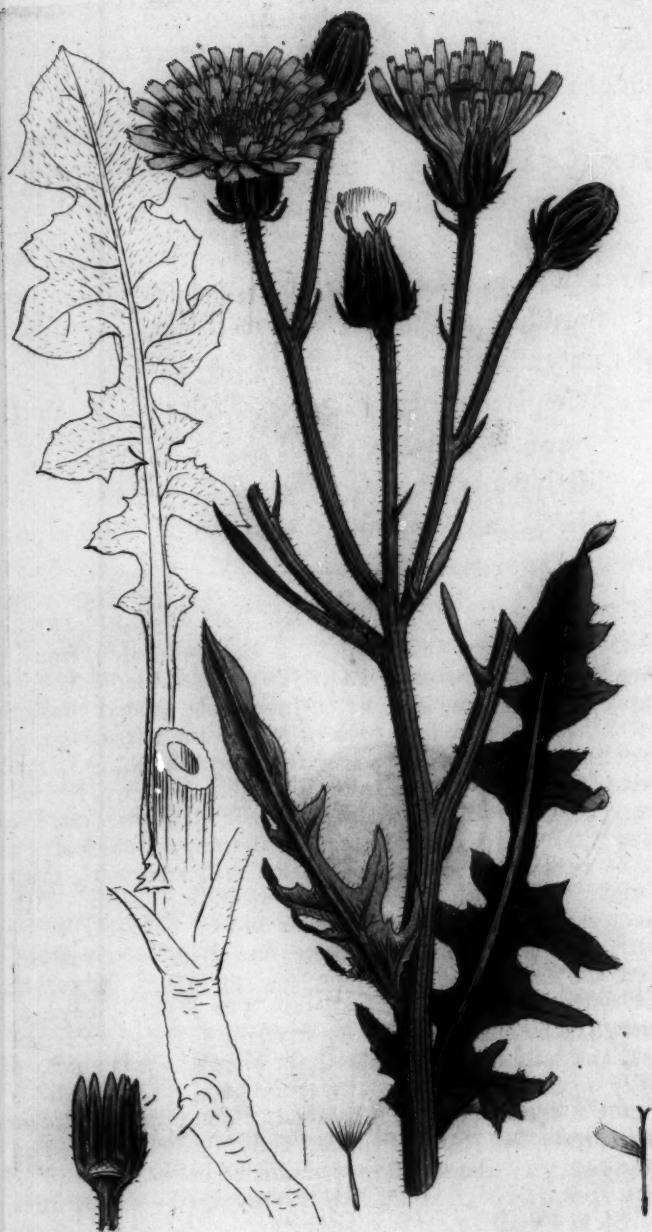
U. pilulifera, folio profundius *Urticæ majoris* in modum ferrato, semine magno lini. *Raii Syn.* 140.

SENT by Dawson Turner Esq. in July last from Yarmouth, where, as in various parts of the Norfolk and Suffolk coast, this kind of nettle is found growing abundantly among rubbish and stones. Its sting is more painful than either of our common species whose structure is so well illustrated by Mr. Curtis in his *Flora Londinensis*.

This is an annual of very luxuriant growth, about 2 feet high, stem obtusely angular, often purple. Leaves on longish foot-stalks, ovate, sometimes heart-shaped, pointed, very strongly ferrated, paler beneath. Flower-stalks axillary, in pairs, those of the male flowers panicled. Their calyx is of four equal leaves. Stamina spreading. Supposed nectary an obsolete concave tubercle in the centre. Female flowers in a round head. Calyx of two hemispherical valves closely embracing the germen, and holding the seed till quite ripe. Seed oval, dark brown, highly polished.

Our specimens seem intermediate between those of *U. pilulifera* and *U. balearica* in the Linnean herbarium, and notwithstanding the opinion of Professor Murray (see *Withering*) we believe these species not to be distinct. *U. Dodartii* appears different enough from both.





J. C. Smiley del. J. C. Smiley 1893

CREPIS biennis.

*Rough Succory Hawkweed.**SYNGENESIA Polygamia-equalis.*

GEN. CHAR. *Recept.* naked. *Calyx* furrounded with deciduous scales. *Down* simple, generally on a footstalk.

SPEC. CHAR. Leaves runcinato-pinnatifid, rough, furnished at the base with teeth pointing upwards. *Calyx* bristly.

SYN. *Crepis biennis.* Linn. *Sp. Pl.* 1136. *Relb. Cant.* 296. *With. Bot. Arr.* 855.

Hedynois biennis. Hudf. *Fl. An.* 342.

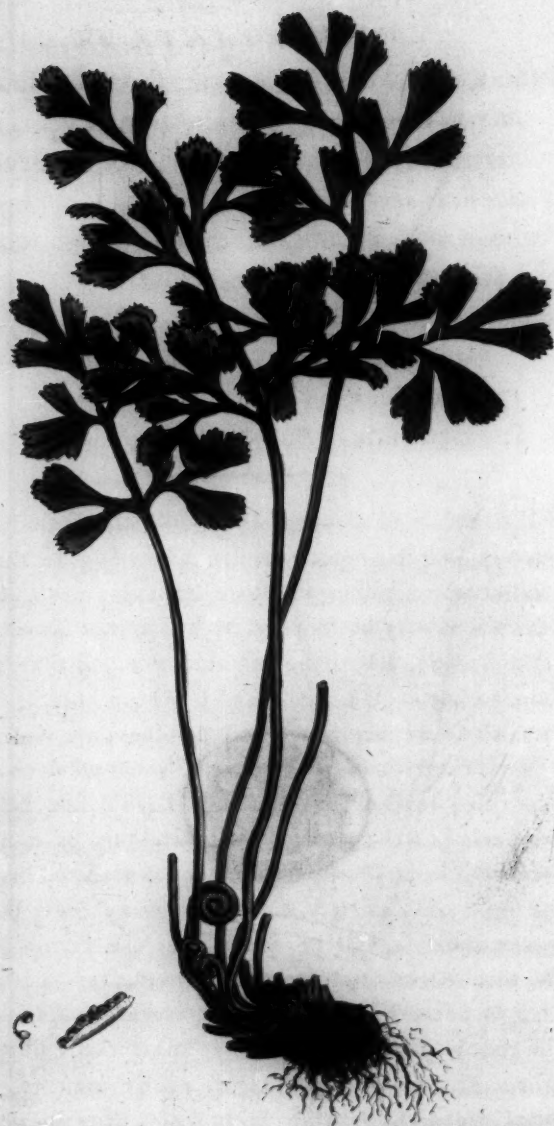
Hieracium maximum Chondrillæ folio asperum. Raii *Syn.* 166.

FOUND in a chalky soil, and communicated from near Bury by William Mathew Esq. The root is biennial, spindle-shaped, flowering about June or July of the second year. Stem erect, three or four feet high or more, angular, rough, leafy, branched in the upper part, often purplish below. Radical leaves several, on long purplish footstalks, obovate, lyrato-dentate; those on the lower part of the stem runcinate, with many small sharp scattered teeth; the uppermost leaves more deeply pinnatifid, sessile, dilated and half embracing the stem at their base, with several sharp ascending teeth. All the leaves are rough, especially their mid-ribs beneath, with projecting bristles. Many alternate flower-stalks terminate the stem, the lowermost branched, making a sort of corymbus, each with a linear leaf at its base. The external calyx is lax, somewhat membranous in the margin, slightly bristly on the back, and half as long as the inner one, which is erect, more bristly on the back, and woolly at the base. The corolla is externally reddish. Florets 5-toothed, closing in the afternoon. Styles brownish. Seeds striated, and so much lengthened out into a beak that the down may almost be called stipitate. This down appears rough when highly magnified.—Sometimes, as Dr. Stokes well remarks, the calyx is smooth or nearly so, which is partly the case in Linnæus's own Scanian specimens.

CRF 413



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ASPLENIUM Ruta-muraria.

*White Maiden-bair or Wall-rue.**CRYPTOGAMIA Filices.*

GEN. CHAR. *Fruetifications* in scattered lines. *Involucrum* originating laterally from a vein, and bursting inwardly (that is towards the nerve). *Smith Mem. of the Turin Acad. Vol. 5.*

SPEC. CHAR. Frond alternately twice compound; leaflets wedge-shaped notched.

SYN. *Asplenium Ruta-muraria.* *Linn. Sp. Pl. 1541.*
Huds. Fl. An. 453. With. Bot. Arr. V. 3. 53.
Relb. Cant. 389.

Ruta muraria. *Raii Syn. 122.*

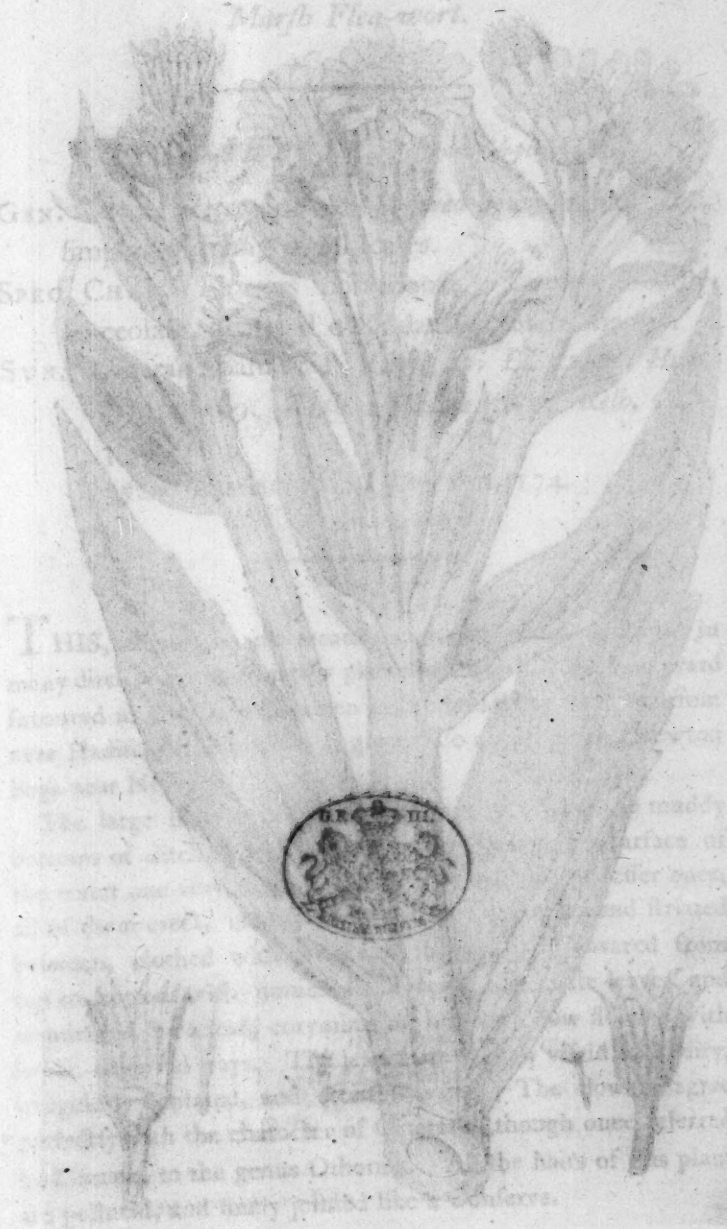
OLD walls and shady rocks produce this little fern not unfrequently, varying much in size according to the degree of nourishment, or rather moisture, that it meets with. The fructifications may be found early in summer in the best state for examination, when the membrane which covers each line is about to burst. The genera of ferns can only be determined in that early state, as many whose involucre are widely different have the back of their fronds covered in an advanced state with one confused mass of capsules, and have hence been erroneously referred to the genus of *Acrostichum*, as even the plant before us might be if only seen in such a state. This is not one of the most easy to be determined in any state, but if carefully examined it will be found that the membrane always bursts towards an adjoining vein or nerve, and never towards the margin of the leaf without an intervening vein.

The root is perennial, of many dark thready fibres. Stalks upright. Fronds thick and rigid, a little inclined, of a dark glaucous green, smooth in every part. *Involucrum* notched in the margin.

CINERARIA palustris.

Marsh Flea-wort.

GRASS.
SPEC. CH.
SUN.



This plant is very common in many districts, and is often found in wet places. The large leaves are very characteristic, and the flowers are small and numerous. The plant is very hardy and can withstand frost. The leaves are very succulent and are often eaten by cattle. The flowers are very small and are often used for medicinal purposes. The plant is very common in many districts, and is often found in wet places. The large leaves are very characteristic, and the flowers are small and numerous. The plant is very hardy and can withstand frost. The leaves are very succulent and are often eaten by cattle. The flowers are very small and are often used for medicinal purposes.



J. Sauerby del. 1793

CINERARIA palustris.

Marsh Flea-wort.

SYNGENESIA *Polygamia-superflua.*

GEN. CHAR. *Receptacle* naked. *Seed* down simple. *Cal.* simple, of many equal scales.

SPEC. CHAR. Flowers corymbose. Leaves broadly lanceolate, dentated or sinuated. Stem shaggy.

SYN. *Cineraria palustris.* *Lin.* *Sp. Pl.* 1243. *Huds.* *Fl. An.* 369. *With. Bot. Arr.* 919. *Relb. Cant.* 320.

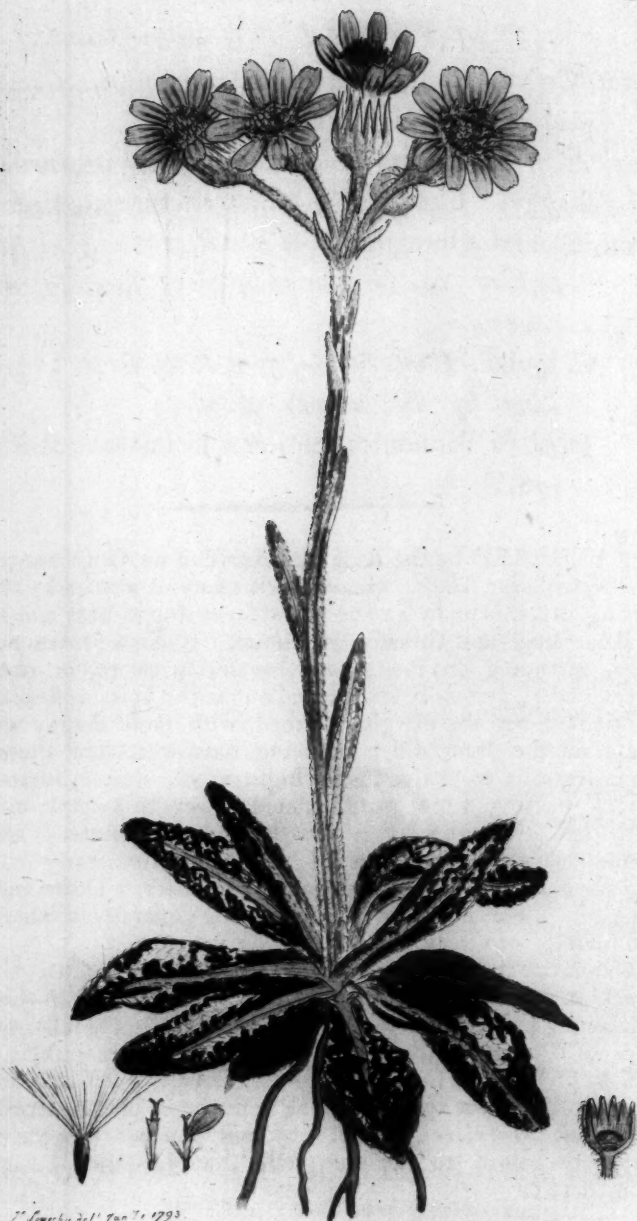
Conyza foliis laciniatis. *Raji Syn.* 174.

THIS, though by no means a common plant, is found in many ditches and wet marshy places in the fens. Mr. Woodward favoured us with this specimen in the middle of June last from near Hadiscoe in Norfolk; it grows also on St. Faith's Newton bogs near Norwich.

The large fibrous perennial root runs deep into the muddy bottoms of ditches, and throws up high above the surface of the water one very stout principal stem, with a few lesser ones, all of them erect, unbranched, with many angles and striated between, clothed with thick soft shaggy hair, covered from top to bottom with numerous alternate lanceolate leaves, and terminated by a leafy corymbus of bright yellow flowers with lemon-coloured rays. The leaves are slightly viscid and hairy, irregularly dentated, and often sinuated. The flowers agree perfectly with the character of *Cineraria*, though once referred by Linnæus to the genus *Othonna*. All the hairs of this plant are pellucid, and finely jointed like a *Conserva*.

CINQUE ANNI





J. Smiley del. Jan 7. 1793.

CINERARIA integrifolia.

*Mountain Flea-wort.*SYNGENESIA *Polygamia-superflua.*

GEN. CHAR. *Recept.* naked. *Down* simple. *Cal.* simple, of many equal scales.

SPEC. CHAR. Leaves oblong, obsoletely denticulated, shaggy. Flowers in a simple involucreted umbel.

SYN. *Cineraria integrifolia. With. Bot. Arr.* 920. *Murr. Syst. ed.* 14. (β *pratensis*) 765. *Jacq. Fl. Austr.* t. 180.

C. alpina. Hudf. Fl. An. 370. *Relb. Cant.* 320. *tab. Linn. Sp. Pl.* (var. ν) 1243.

Jacobæa Pannonica folio non laciniato. Raii Syn. 178.

GATHERED by the Rev. Mr. Hemsted on Gogmagog hills and Newmarket heath, where, as on many other chalky downs of England, this plant is to be found flowering in May and June.

Root long and thready, perennial. Radical leaves numerous, spreading on the ground, ovate, spatulate, or obovate occasionally, generally lengthened out at the base, reflexed and denticulated in the margin, clothed with loose shaggy wool; those on the stem differ in being narrower, and alternate. Stem from six to twelve inches high, erect, simple, furrowed, woolly, bearing a few pedunculated flowers in a simple umbel, with an involucre of a few lanceolate, pointed, almost naked, leaves. The scales of the calyx are nearly naked, and have a membranous margin. Seeds hairy. Down simple, roughish. The florets of the radius are generally broadest in the middle, or nearly oval.

Cineraria alpina α *Linn. Sp. Pl.* is *Senecio alpinus* of the *Suppl. p.* 371, a very different plant, whose history in the last mentioned place is terribly confused, No. 67 of Haller being *Senecio Doronicum*, and No. 68 our *Cineraria integrifolia*. No. 63 of Haller is (according to Mr. Davall) its true synonym.

Our plant never approaches the appearance of *C. integrifolia* α , *alpina*, *Murr. & Jacq. t.* 179, nor can we suppose that variety to belong to any thing else than *Jacquin's C. longifolia*, t. 181.

CINERARIA integrifolia.

Mountain Flax-root.

STAGNELLIA Flax-root.

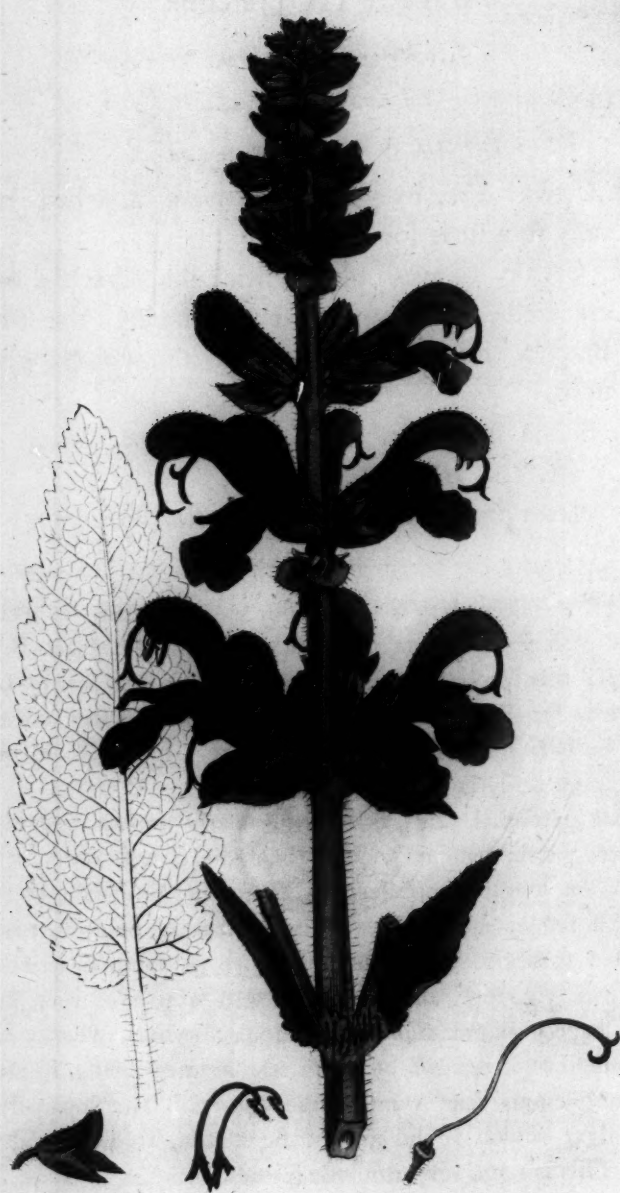
Stagnellia Flax-root. The plant is a small, erect, branched perennial, with a thick, woody, horizontal root, from which several upright stems arise. The leaves are opposite, ovate, with a long petiole, and a serrated margin. The flowers are small, tubular, and white, with a yellow center. The fruit is a small, round, black seed.

CINERARIA integrifolia. The plant is a small, erect, branched perennial, with a thick, woody, horizontal root, from which several upright stems arise. The leaves are opposite, ovate, with a long petiole, and a serrated margin. The flowers are small, tubular, and white, with a yellow center. The fruit is a small, round, black seed.

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SALVIA





SALVIA pratensis.

Meadow Clary.

DIANDRIA Monogynia.

GEN. CHAR. Cor. irregular. Filaments attached laterally to a little footstalk.

SPEC. CHAR. Leaves oblong, heart-shaped at the base, crenated; the uppermost embracing the stem. Bractææ minute. Summit of the corolla glutinous.

SYN. Salvia pratensis. Linn. Sp. Pl. 35. Hudf. Fl.

An. 10. With. Bot. Arr. 21.

Sclarea pratensis foliis ferratis. Raii Syn. 237.

THE meadow clary is one of our more specious, as well as of our most scarce plants of British growth. Mr. Jacob Rayer gathered this specimen near Cobham in Kent, the seat of Lord Darnley. Dr. Stokes mentions it as common in Surry and Sussex; we have had it too from Oxfordshire. It flowers in June, and cannot easily be overlooked.

Root perennial. Leaves oblong, nearly smooth, irregularly crenated, wrinkled and veiny; the radical, and lower stem-leaves, on longish footstalks, and sometimes sinuated; the uppermost sessile, embracing the stem, sharply pointed. Long whorled spikes of large blue flowers (6 of them in a whorl) terminate the stem and branches, with a pair of very small heart-shaped, acuminate bractææ to each whorl, whence Linnæus defines it *verticillis subnudis*, the bractææ being so much less conspicuous than in most other species. The flower-stalks and calyx, as well as the apex of the corolla, are hairy and viscid. This is not a very aromatic species.

SALVIA verbenaca

Wild Sage-Clary.

DIAPHYLLA verbenaca.

Gen. Char. Cal. five-lobed, segments attached laterally to a little tube.

Spec. Char. Leaves opposite, ovate-lanceolate, serrate. Corolla much longer than the calyx.

Syn. Salvia verbenaca, L. Fl. 33. Thell. Fl. 33. R. & S. R. & S. R. & S.

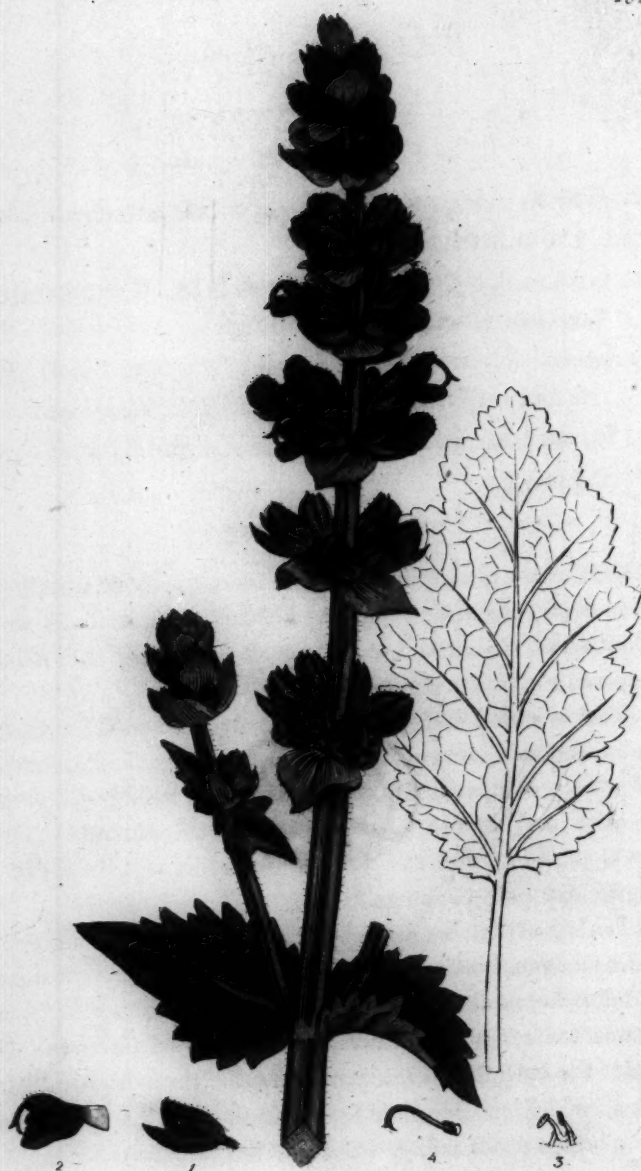
Pharmacop. Lond. Salvia flore. R. & S.

Cultivation. This plant is native of the coast of France. The whole plant is used in medicine, the leaves are much better than the flowers.

Uses. The leaves are used in medicine, the leaves are much better than the flowers. The leaves are used in medicine, the leaves are much better than the flowers. The leaves are used in medicine, the leaves are much better than the flowers.

The leaves are used in medicine, the leaves are much better than the flowers. The leaves are used in medicine, the leaves are much better than the flowers. The leaves are used in medicine, the leaves are much better than the flowers.





SALVIA verbenaca.

Wild English Clary.

DIANDRIA Monogynia.

GEN. CHAR. Cor. irregular. Filaments attached laterally to a little footstalk.

SPEC. CHAR. Leaves serrated, smoothish. Corolla much more contracted than the calyx.

SYN. Salvia verbenaca. Linn. Sp. Pl. 35. Hudf. Fl. An. 10. With. Bot. Arr. 22. Relb. Cant. 10.

Horminum sylvestre Lavandulæ flore. Raii Syn.

237.

COMMON on chalky and gravelly soils, as about Charlton. The whole plant is of a deeper green than *Salvia pratensis*, and the flowers of a darker blueish purple; they are also much smaller, and by far less conspicuous.

The root is perennial, strong and woody. Radical leaves on footstalks, sinuated and crenate; those on the stem sessile, sharply and grossly serrated. Bractææ entire, heart-shaped, acute, larger in proportion to the flowers than in *S. pratensis*. The flowers appear in June, and may be found even till October. Our figure expresses their structure.

The herb and flowers prove very aromatic upon being rubbed. The seeds are black and smooth, producing a great quantity of soft tasteless mucilage when moistened, whence they become serviceable for removing extraneous matter from the eyes. If put under the eyelid for a few moments, the tears dissolve their mucilage, which envelops any sand or dust that may be in the way, and brings it out safely. Gerarde has noticed this.

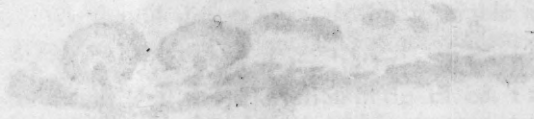
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LICHEN Angulatus

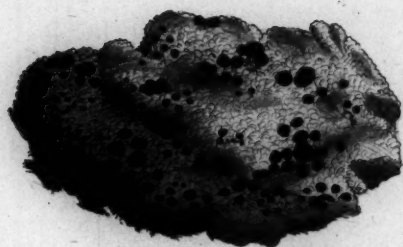
Sampson's Lichen

Rock, Crags, Mts. scattered over.

Forms, smooth, thick, or tubercles, in which the
fossils are imbedded.

Small Crags, Crags, Mts. scattered over. The
fossils are imbedded in the rock, and are
very small, and are not very distinct.





J. Pomeroy del. Jan 21 1794

LICHEN fanguinarius.

*Sanguineous Lichen.**CRYPTOGAMIA Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crustaceous, white and polished. Tubercles black, destitute of a border, bright red within.

SYN. Lichen fanguinarius. *Linn. Sp. Pl.* 1607. *Huds. Fl. An.* 524.

GATHERED copiously by Dr. Smith on the granite rocks of Cromford Moor near Matlock, though rare elsewhere. We have been very sparing of synonyms to this species, because scarcely any author seems to have understood it. Linnæus confounded together several species of Lichen, under the name of fanguinarius, which in our opinion are distinct, especially one with a thin greyish ground, and marginated tubercles, found on the bark of smooth young trees, and another with a thick greenish crust, found on rocks. In this Messrs. Hudson, Lightfoot, Relhan and Withering follow him without any discrimination. We should dissent from these respectable authorities with great diffidence, if they appeared to have examined the matter at all. What we here offer is the true *L. fanguinarius*, on the authority of the description in *Sp. Pl.* ed. 1 and 2, as well as of the *Linn. Herbarium* (in which there is a specimen of it on the bark of a tree), and may be certainly distinguished by the following marks:—

The crust is white and polished, not mealy, often of a considerable thickness, its surface consisting of minute unequal knobs or *rugæ*, its substance very white internally, though sometimes stained with a most vivid vermilion hue. The tubercles are very various in size, flat, and imbedded at first among the inequalities of the crust, but soon rising above it, and becoming very convex, even globose, without any perceptible border, very black, scarcely shining. If their black surface be pared off, a thicker layer of grey appears, and under that a mixture of white and red, appearing to be the crust of the plant elevated into the centre of the tubercle, and so becoming more constantly (though not infallibly) red than it is of itself in other parts.

1881 THE NEW YORK

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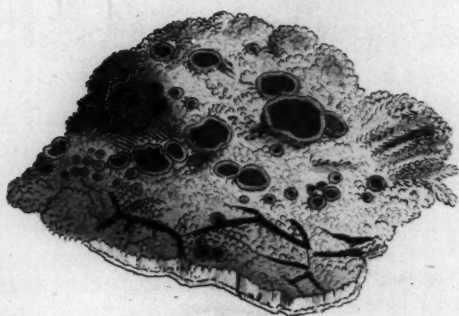
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J. Sowerby del. Jan. 1794.

LICHEN tartareus.

Tartareous Lichen.

CRYPTOGAMIA Algæ.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Crustaceous, whitish. Shields yellow, with a white margin.

SYN. Lichen tartareus. *Linn. Sp. Pl.* 1608. *Huds. Fl. An.* 529. *With. Bot. Arr. V.* 3. 180.

Lichenoides crustaceum et leprosum, acetabulis majoribus luteis, limbis argenteis. *Raii Syn.* 71. *Dill. Musc.* 132. t. 18. f. 13.

FREQUENT on rocks in Scotland and the north of England. This is the largest of our crustaceous Lichens. The crust has a tuberculated surface, and is externally of a greyish white, though snow-white within. In thickness it varies from an inseparable film running over mosses and turf, and assuming their form, to a solid substance of full a quarter of an inch or more. Its diameter is often 6, 8 or 10 inches. The shields are from a line to half an inch in breadth, flat, smooth, not shining, of a yellowish buff-colour, with a white elevated, often rugged, margin. These shields prove occasionally prolific, or aggregate.

Lichen tartareus may be known, even without fructification, by a peculiar pungent alkaline smell when moistened. It is much used in dyeing. The gatherers carefully choose such specimens as are of a firm dense texture, and they never scrape the same rock oftener than once in five years. It is prepared for use with volatile alkali and alum, but the exact process is kept a secret by the manufacturers at Glasgow. When sold to the Dyers, it appears in the form of a purple powder, called *Cudbear* (a corruption of Cuthbert, the name of its inventor). This powder being boiled with woollen yarn, communicates its colour to it, but not to vegetable substances. The colour is far from permanent. See Dr. Smith's *Tour on the Continent*, vol. 1. p. 198.

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L. Gussonei Fels. 1793

GERANIUM rotundifolium.

Doves-foot Cranebill.

MONADELPHIA Decandria.

GEN. CHAR. *Style* one. *Cor.* of 5 petals, regular. *Nectary* 5 glands at the base of the longer stamina. *Fruit* beaked, separating into 5 arilli, each tipped with a long simple naked awn.

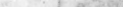
SPEC. CHAR. Stalks two-flowered. Petals entire, the length of the calyx. Stem spreading. Leaves kidney-shaped, cut. Arillus even, hairy. Seeds reticulated.

SYN. *Geranium rotundifolium.* Linn. *Sp. Pl.* 957.
Huds. Fl. An. 303. *With. Bot. Arr.* 732.

G. columbinum majus, flore minore cæruleo.
Raii Syn. 358.

FROM under a wall near Hackney, gathered by Mr. E. Forster jun. who has also found it about Islington, and at Church Bramton in Northamptonshire. This is one of the least general of our Cranebills, though abundant in quantity where it does grow.

This species is annual, and flowers in June and July. The stems are much branched, straggling, but scarcely prostrate. Every part of the herb is clothed with a velvet-like downiness, very soft to the touch. The leaves are more round than in some other common species; their colour paler. It is, however, needless to recur to the vague marks of distinction given by all authors, as the punctated or reticulated seeds distinguish this from all its allied species, especially from the pusillum, with which its arillus somewhat agrees; though even in that part they may be distinguished, the hairs on the arillus of pusillum being *close pressed*, not spreading. The arillus of molle differs from both in being very rugged, and not even, in its surface. That of pyrenaicum is even, sharply carinated, and scarcely pubescent at all.





M. ag. Bot. 1798

PYROLA minor.

*Lesser Winter-green.**DECANDRIA Monogynia.*

GEN. CHAR. *Cal.* 5-cleft. *Petals* 5. *Capsule* 5-celled, bursting at the angles.

SPEC. CHAR. Flowers in a racemus, scattered. Stamina spreading every way. Style straight.

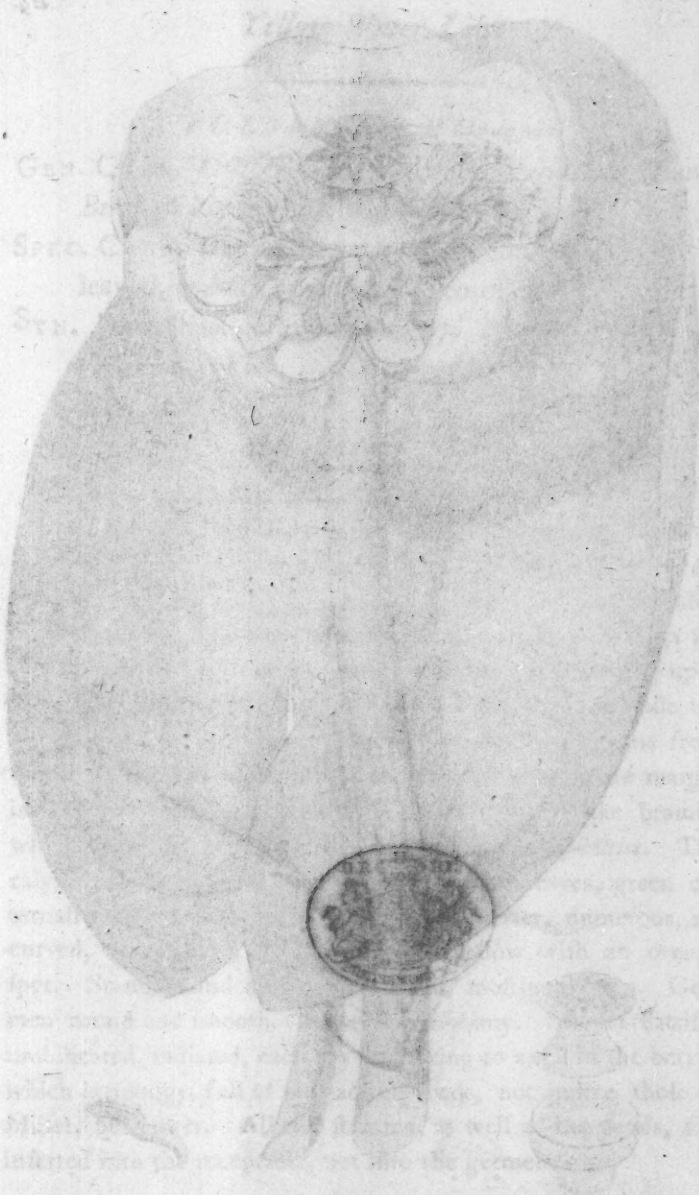
SYN. *Pyrola minor.* *Linn. Sp. Pl.* 567. *Huds. Fl. An.* 176. *With. Bot. Arr.* 429. *Raii Syn.* 363.

SENT from Scotland along with *Pyrola uniflora* (t. 146) by James Brodie Esq. It is rather an alpine plant, occurring in mountainous forests, though even found in Stoken-church woods Oxfordshire. Dillenius well observes, that this is really more common than the *P. rotundifolia*, called by old authors *vulgaris*, and suspects they may often have been confounded, as they certainly were by Ray. Dr. Smith found them so in Mr. Lightfoot's herbarium, though so distinct in the form and position of their stamina and pistilla, as we hope to demonstrate when we can obtain a wild specimen of *P. rotundifolia*.

The plant now figured has a perennial branchy root, producing a few short, angular, leafy stems. The leaves are roundish, obtuse, obsoletely ferrated, of a hard firm texture, smooth, on longish, angular, and often webbed, footstalks. The stalk is erect, about 6 inches high, triangular, smooth, terminating in a simple upright bunch of white or reddish flowers, standing on short footstalks, and pointing every way. The bractæa lanceolate, standing solitary at the base of each footstalk. Calyx small. Petals concave, veiny. Stamina spreading from their base, then erect. Antheræ roundish, with two holes at their lower part, but not, as in *P. uniflora*, protruded into tubes. Germen roundish, with five furrows. Style simple, short, erect, nearly on a level with the stamina. Stigma small, five-lobed.

This species, planted by Mr. Lightfoot, is in a manner naturalized in the Duke of Portland's fine wood at Bulstrode.

NYMPHAEA





N Y M P H Æ A lutea.

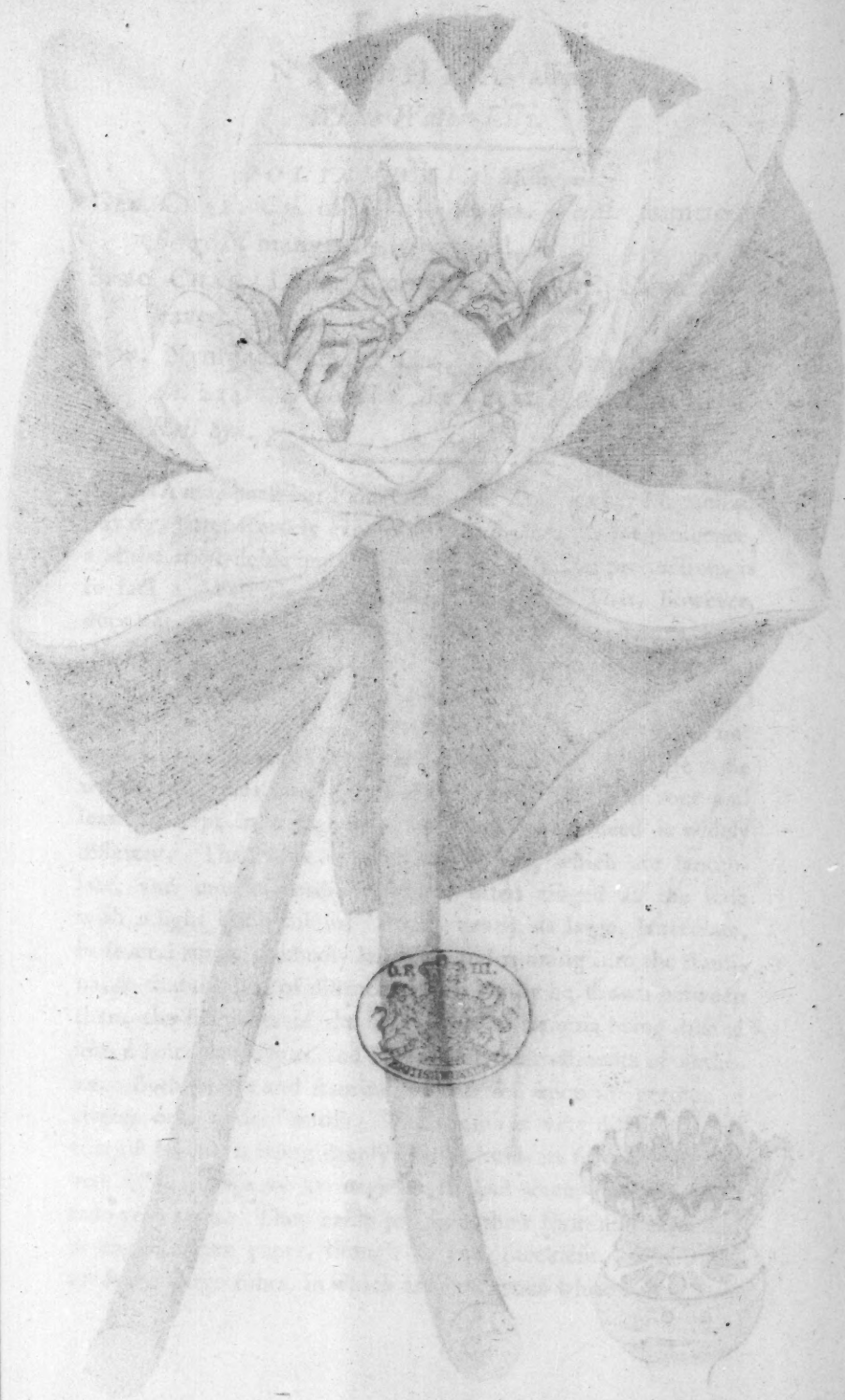
*Yellow Water-Lily.**POLYANDRIA Monogynia.*GEN. CHAR. *Cal.* of 4 or 5 leaves. *Petals* numerous.*Berry* of many cells, truncated.

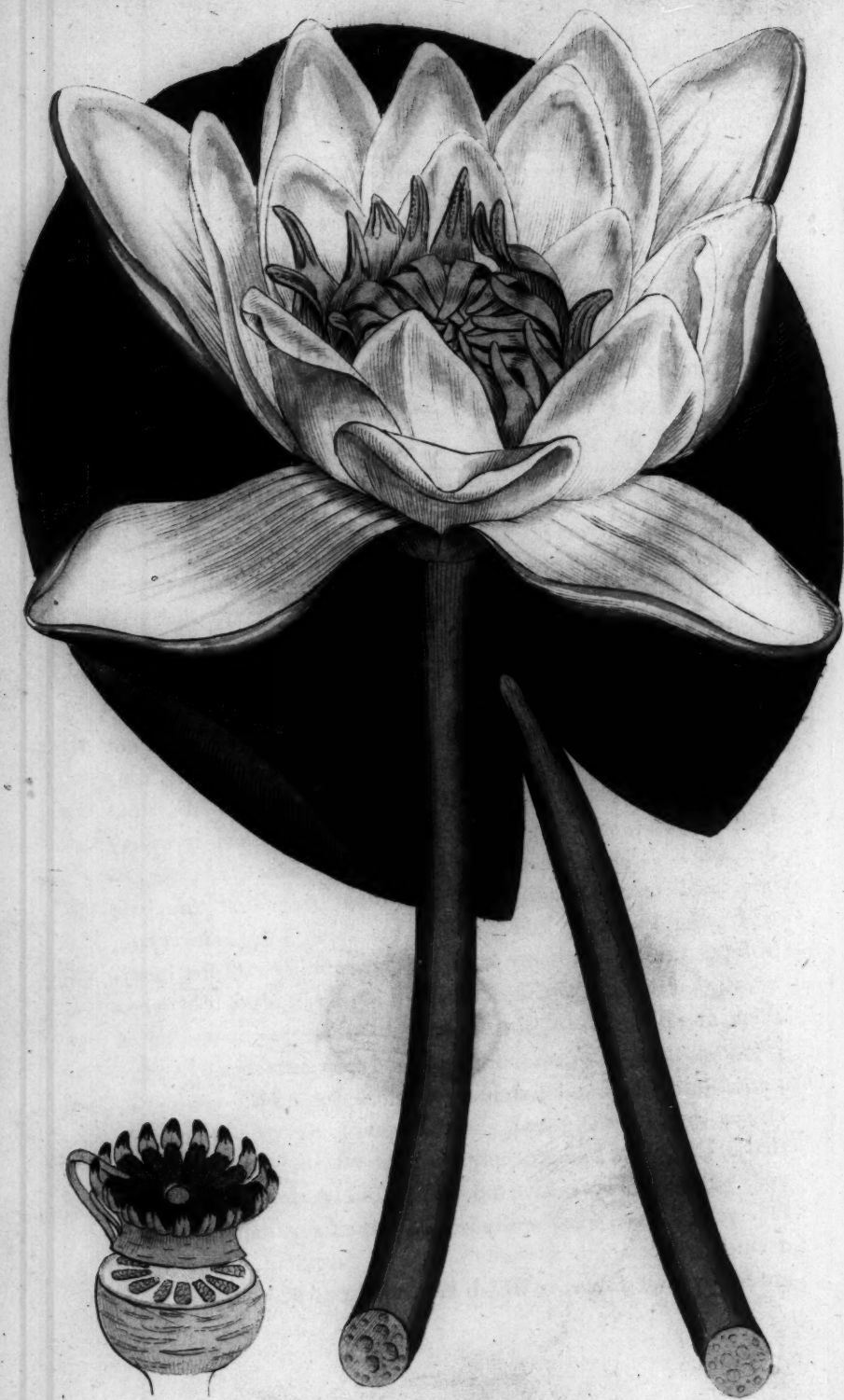
SPEC. CHAR. Leaves heart-shaped, entire. Calyx five-leaved, much exceeding the corolla.

SYN. *Nymphæa lutea.* *Linn. Sp. Pl.* 729. *Huds. Fl.**An.* 234. *With. Bot. Arr.* 554. *Relb. Cant.* 205.*Raii Syn.* 368.

A VERY general inhabitant of rivers and large pools, flowering about the middle of summer very copiously. Root perennial, running deep into the mud. Leaves radical, on roundish footstalks flattened on one side, which are longer or shorter according to the depth of the water, the leaf itself floating upon the surface, to which its under side is closely applied, while the upper remains dry. A remarkable line or furrow runs from the insertion of the footstalk to the tip of the leaf; the margin is entire. The flowers, as Ray observes, smell like brandy, whence they are vulgarly called in Norfolk *brandy-bottles*. The calyx is of five large obovate concave yellow leaves, green externally towards the base. Petals much shorter, numerous, recurved, very obtuse, thick and fleshy, yellow with an orange spot. Stamina and antheræ recurved, mostly uniform. Germs round and smooth. Style scarcely any. Stigma flattish, umbilicated, radiated, each ray answering to a cell in the berry, which is spongy, full of farinaceous seeds, not unlike those of Millet, but larger. All the stamina, as well as the petals, are inserted into the receptacle, not into the germen.

NYMPH E. A. J. 1904





NYMPHÆA alba.

*White Water-Lily.**POLYANDRIA Monogynia.*

GEN. CHAR. *Cal.* of 4 or 5 leaves. *Petals* numerous.
Berry of many cells, truncated.

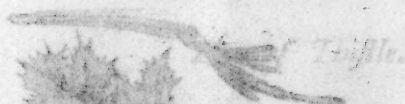
SPEC. CHAR. Leaves heart-shaped, entire. Calyx four-leaved.

SYN. *Nymphæa alba.* *Linn. Sp. Pl.* 729. *Huds. Fl. An.* 234. *With. Bot. Arr.* 555. *Relb. Cant.* 206.
Raii Syn. 368.

INDIA may boast her Palm-trees, and America her Magnolias, but the latter scarcely exceed our *Nymphæa* in magnificence, and the most noble and celebrated of all Indian productions is in fact a Water-lily, *Nymphæa Nelumbo*. That, however, does not more excell the other vegetables of its country, than this every British plant besides. It has altogether the air of a Tropical production.

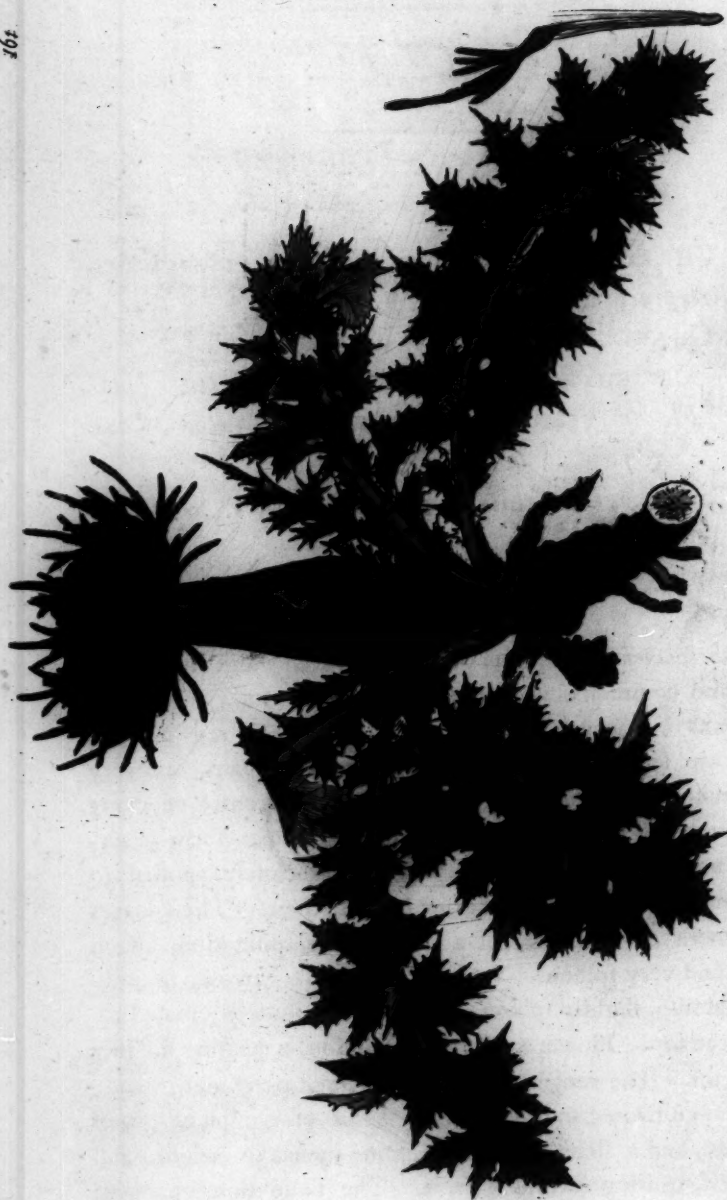
* Though by far less common than the *lutea*, this kind is not rare in some parts of England. It flowers at the same time with that species, and agrees with it very much in root and leaves, except in being larger. The flower indeed is widely different. The calyx of four leaves only, which are lanceolate, and more spreading, white, often tinged at the base with a light blush-colour. Petals nearly as large, lanceolate, in several rows, gradually lessening and running into the stamina, so that the line of distinction can hardly be drawn between them, the filaments of the outer rows of stamina being dilated into a lanceolate form, and having but the rudiments of antheræ. Both petals and stamina are inserted upon the germen in circles even to its summit. The stigma is very different from that of *N. lutea*, being deeply cloven, and its segments recurved. These flowers have no smell, and when gathered they fade very soon. They easily preserve their form and colour in drying between paper, though so very succulent. The stalks are full of large tubes, in which are numerous white hairs.

CARDUUS arvensis.



Gen. Char. ...
 Recept. ...
 Sp. Char. ...
 Syn. Carduus ...
 Pl. in ...
 Herb. ...

THE species ...
 and ...
 which are ...
 conspicuous ...
 form a ...
 applied to ...
 Their leaves ...
 narrow, smooth ...
 deeply ...
 appearing in July ...
 or August. The ...
 When cultivated ...
 more ...
 branched, bearing ...
 The same flag ...
 to the Carduus ... of the south of Europe.



P. Scurbydell. M. L. L. 1798.

CARDUUS acaulis.

Dwarf Thistle.

SYNGENESIA *Polygamia-equalis.*

GEN. CHAR. *Cal.* ovate, imbricated with spinous scales.

Receptacle hairy.

SPEC. CHAR. Stem wanting. Calyx smooth.

SYN. *Carduus acaulis.* Linn. *Sp. Pl.* 1156. *Huds.*

Fl. An. 354. *With. Bot. Arr.* 877. *Relb. Cant.*

307.

Carlina acaulis minore purpureo flore. *Raii Syn.*

195.

THIS species of *Carduus* occurs in gravelly and chalky pastures and commons, very abundantly in Norfolk, though by no means a general English plant. Its large red flowers, which are seldom more than one upon each plant, are very conspicuous, standing close to the root in the centre of many wide-spreading depressed leaves, which sometimes form a circle of near a foot in diameter, and are so closely applied to the ground that nothing can grow beneath them. These leaves are smooth and shining, of a deep green, pinnatifid, much lobed, and very spinous. Scales of the calyx narrow, smooth, rather obtuse, slightly spinous, sometimes minutely ciliated towards the top. Flower erect, deep crimson, appearing in July or August. The root is strong, woody, and perennial.

When cultivated in a garden the habit of the plant grows more lax, and a stem is produced, some inches in height, and branched, bearing several flowers. The same thing happens to the *Carlina acaulis* of the south of Europe.

CARDUUS acanthia

Downy Thistle

ST. JOHN'S WORT
 GEN. CHAR. Cal. ovate, imbricated with spinous scales.
 Receptacle hairy.
 SPEC. CHAR. Stem winged. Cal. imbricate.
 ST. J. Carduus acanthia. Linn. Sp. Pl. 1750. Hb. K.
 Fl. An. 354. W. & A. Bot. An. 277. Rel. Cana.
 307.
 Carduus acanthia minor, purpureo flore. Ait. 276.
 182.

THIS species of Carduus occurs in gravelly and oblique
 fens and common, very abundantly in Norfolk, especially
 no means a general English plant. Its large red flowers
 which are seldom more than one upon each plant are very
 conspicuous, and close to the root in the centre of many
 wide-spreading upright leaves, which sometimes form a
 sort of near a foot in diameter and are so closely applied to
 the ground that nothing can grow beneath them. These leaves
 are smooth and shining, of a deep green, pinnatifid, much
 lobed, and very spinous. Spaces of the calyx narrow, imbricate
 under obtuse, slightly spinous, sometimes minutely ciliated to-
 wards the top. Flower erect, deeply tinged, appearing in July
 or August. The root is thick, woody, and perennial.
 When cultivated in a garden the habit of the plant grows
 more lax, and a stem is produced, some inches in height, and
 branched, bearing several flowers. The same thing happens
 to the Carduus acanthia of the South of Europe.

HYMELIUM

Taxodium

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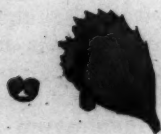
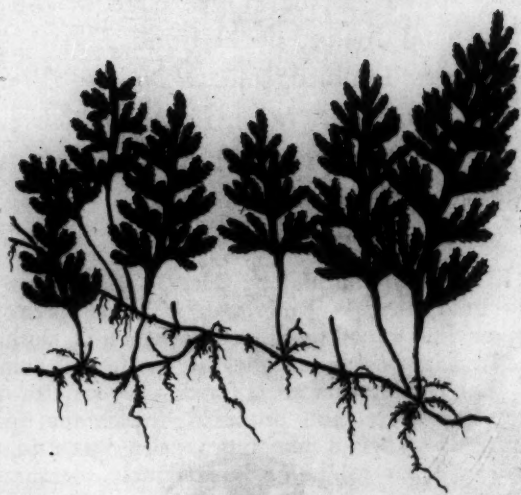
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J. Sauerb. det. Feb. 1799

HYMENOPHYLLUM Tunbridgense.

*Tunbridge Filmy-leaf.**CRYPTOGAMIA Filices.*

GEN. CHAR. *Fruifications* inserted into the margin of the frond, distinct. *Involucrum* two-valved, flat-tish, straight, opening outwards, longer than the *Column*. *Smith Mem. of the Turin Acad. Vol. 5.*

SPEC. CHAR. Fronds alternately bipinnate, decurrent, sharply ferrated as well as the involucrum. *Fruifications* solitary at the upper edge of the base of each general division of the frond.

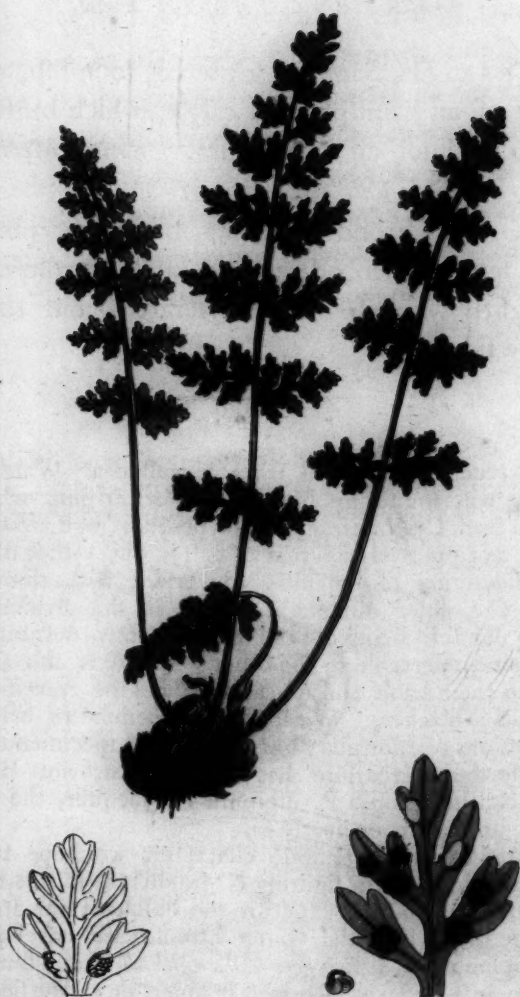
SYN. *Trichomanes Tunbridgense. Linn. Sp. Pl. 1561.*

Huds. Fl. An. 461. With. Bot. Arr. Vol. 3. 65.

Adiantum petraeum perpusillum Anglicum, foliis bifidis vel trifidis. Raii Syn. 123.

GATHERED near Tunbridge by Mr. T. F. Forster jun. It grows also in Wales, Westmorland, and the north parts of Yorkshire, on horizontal moist rocks, which it clothes in large tufts. Mr. Lightfoot mentions this species as common in Scotland. The slender wiry roots spread very far, throwing out fibres here and there, and producing numerous upright leaves or fronds, which when sometimes dried up in summer curl backwards. Their substance is extremely membranous and pellucid, appearing finely reticulated under a microscope, as in all this genus (and in the real *Trichomanes*), their segments linear, obtuse, sharply ferrated, and having a strong simple central rib. The *fructifications*, when they occur, take place of the first segment of each *pinna* or general division of the frond, each terminating its appropriate nerve, and pointing upwards. Their *involucrum* is of two slightly concave valves, arising from the substance of the leaf, irregularly notched and ferrated in their margin. Between these is a short column, beset with small round bivalve capsules, each embraced with an elastic ring as in the more common ferns.

The bivalve *involucrum* and short column, so distinct from the urn-shaped undivided *involucrum*, and long column or style, of the true *Trichomanes*, have induced Dr. Smith to establish this new genus in his Dissertation on Ferns, printed by the Academy of Turin. We have attempted to give it an English name, which is a translation of its Greek one.



J. L. L. del. F. C. 1796

CYATHEA incisa.

Lacinated Cup-fern.

CRYPTOCAMIA Filices.

GEN. CHAR. *Fruifications* scattered, roundish, growing out of an hemispherical calyx, which bursts at the top without an operculum. *Smith Mem. of the Turin Acad.* Vol. 5.

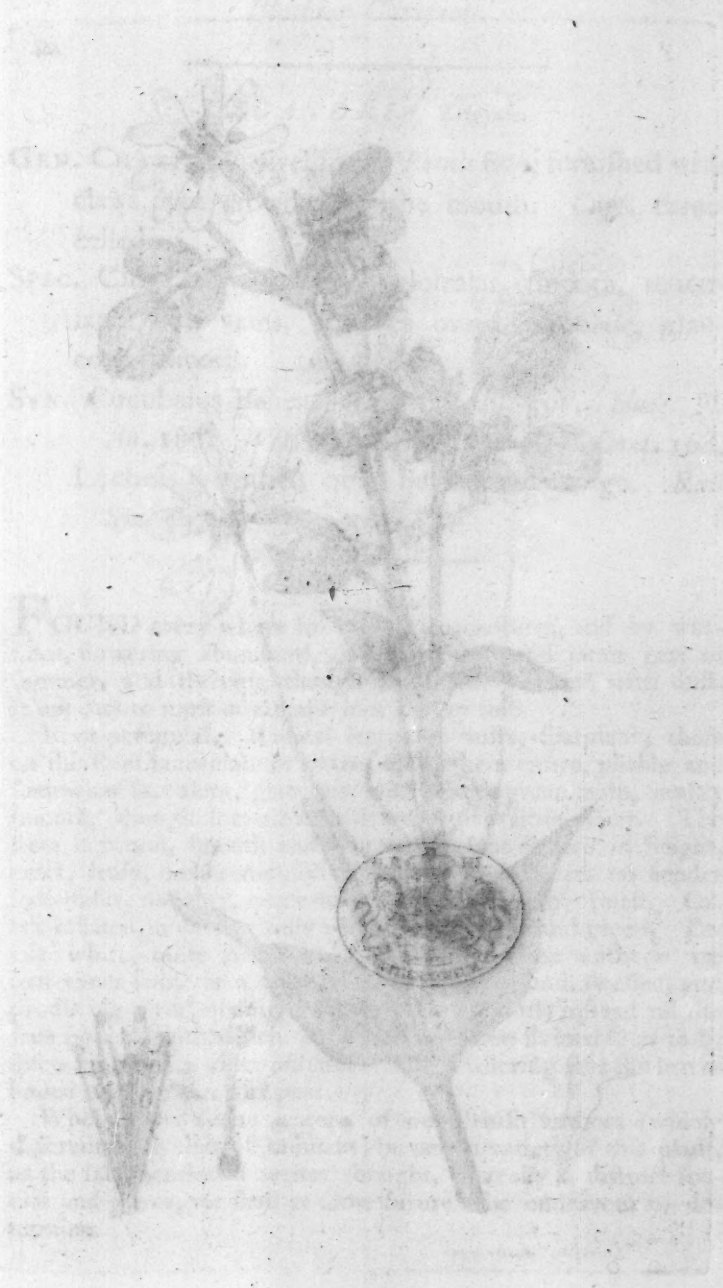
SPEC. CHAR. Frond lanceolate, bipinnate, pinnatifid; its segments lobed, obtuse, and beardless. Stalk slightly winged. Calyx lacerated, and turned to one side.

WE received this fern from a wall near Walthamstow, where it was found by Mr. T. F. Forster jun. who thinks it distinct from *Cyathea fragilis* (*Polypodium fragile* of Linnæus). We dare not positively assert it to be so, but rather offer it for the consideration of botanists conversant with this intricate tribe. The chief difference consists in the divisions of the leaves of our fern being obtuse, and perfectly destitute of the bristly point observable in the other. There is also some difference in their habit and appearance, and the fructification of the *fragilis* is blacker. We have been inclined to believe ours the *P. regium* of Linnæus; but the original specimen of that in the Cliffortian herbarium has a triangular, not lanceolate, frond. Neither is ours *P. alpinum* of Jacquin, the divisions of which are linear, or nearly so.

With respect to the generic character, we hope to give a more clear idea of it in figuring *C. fragilis*, as in this the parts are too minute, and the structure too obscure; but it is essential to the genus that the young capsules are enveloped in a globular membrane, which goes underneath them, and bursts either at the top, in an even or lacerated manner, or at the side (fig. 1.) as in this species and some others.

In some specimens the fronds are broader and more dilated than those we have drawn.

CUCURBITACEAE





J. Sowerby del. March 1794.

CUCUBALUS Behen.

*Bladder Campion.**DECANDRIA Trigynia.*

GEN. CHAR. *Cal.* swelling. *Petals* five, furnished with claws, not crowned at the mouth. *Caps.* three-celled.

SPEC. CHAR. Calyx nearly globular, smooth, reticulated with veins. Leaves ovato-lanceolate, glaucous, smooth.

SYN. Cucubalus Behen. *Linn. Sp. Pl.* 591. *Huds. Fl. An.* 186. *With. Bot. Arr.* 445. *Relb. Cant.* 168. *Lychnis sylvestris*, quæ Ben album vulgo. *Raii Syn.* 337.

FOUND every where in corn-fields, pastures, and by waysides, flowering abundantly in the middle and latter part of summer, and thriving though frequently covered with dust. It appears to most advantage in a chalky soil.

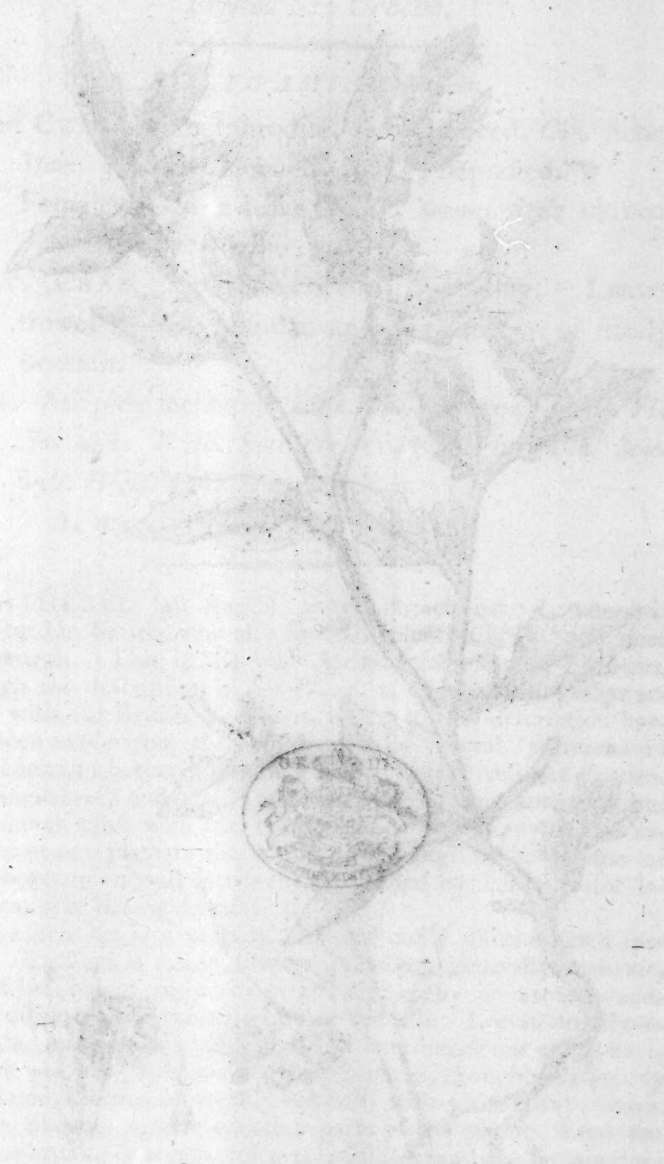
Root perennial. Radical leaves in tufts, spatulate; those on the stem lanceolate or ovate; all of them entire, pliable and somewhat succulent, glaucous, with a very green pulp, mostly smooth, though sometimes ciliated and a little hairy. The stem is round, smooth and glaucous, a foot or two in height, erect, leafy, dichotomously papicled. The flowers on slender foot-stalks, nodding, numerous, with scarcely any smell. Calyx inflated, and beautifully veined with purple and green. Petals white, quite destitute of a crown. The antheræ are sometimes liable to a disease, becoming large and swelled, and producing a vast quantity of barren purple dust, instead of the true pollen, with which the petals are often stained so as to be discoverable at a great distance. Dr. Withering says the leaves boiled may be eaten as peas.

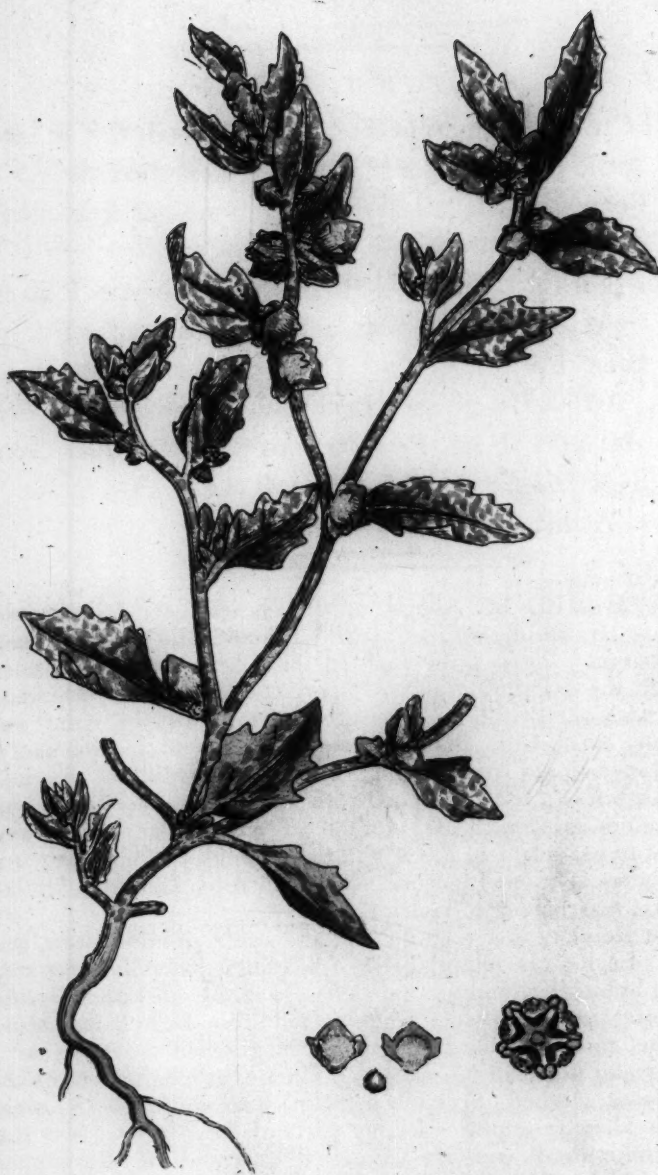
Whether the *Silene amœna* of our British authors (widely different from that of Linnæus) be only a variety of this plant, as the last-mentioned writer thought, or really a distinct species and genus, we shall at some future time endeavour to determine.

1853

ATTESTED & Certified

True & Correct





ATRIPLEX laciniata,

Frosted Sea Orache.

POLYGAMIA Monoecia.

GEN. CHAR. Hermaphrodite. *Cal.* 5-leaved. *Cor.* none.

Stam. 5. *Style* cloven. *Seed* 1, depressed.

Female. *Cal.* 2-leaved. *Cor.* none. *Style* cloven.

Seed 1, compressed.

SPEC. CHAR. Stem herbaceous, spreading. Leaves trowel-shaped, angular and dentated, very mealy beneath.

SYN. *Atriplex laciniata*. *Linn. Sp. Pl.* 1494. *Huds. Fl.*

An. 442. *With. Bot. Arr.* 1143. *Lightf. Flo. Scot.*

636. *Dicks. Hort. succ. fasc.* 4. n. 15.

A. maritima. *Raii Syn.* 152.

GATHERED last August on the beach near Landguard-fort by Dr. Smith, who also found it plentifully at Leith near Edinburgh. This is the real *Atriplex laciniata* of Linnæus, though the description in *Sp. Pl. ed. 2*, does not altogether accord with our British specimens, owing to that description having been made from the consideration of several specimens in the Linnæan herbarium which to us appear distinct species. Mr. Lightfoot's and Mr. Woodward's descriptions are good; but we cannot agree with Mr. Hudson in referring any of the varieties of our plant to the *A. tatarica*, though possibly some of the above-mentioned specimens, described by Linnæus for *laciniata*, may belong to *tatarica*.

Our *laciniata* is a very distinct and easily discriminated species. Its stem is round, always spreading, generally prostrate, much branching, and more or less zigzag, by no means wand-like (*virgatus*), its colour white or reddish. Leaves mostly alternate, more or less triangular, but lengthened out at the base, deeply and unequally toothed and sinuated, though not properly lacinated, clothed (especially beneath) with white silvery scales, which likewise appear on other parts of the plant. Even the hermaphrodite flowers are scarcely spiked, and the female ones are axillary. The seed of the former we have not found in perfection. The calyx of the latter grows very large, and is generally furnished with lateral protuberances; it encloses a large compressed smooth seed. The root is annual, and thrives in the pure sand of the sea-shore

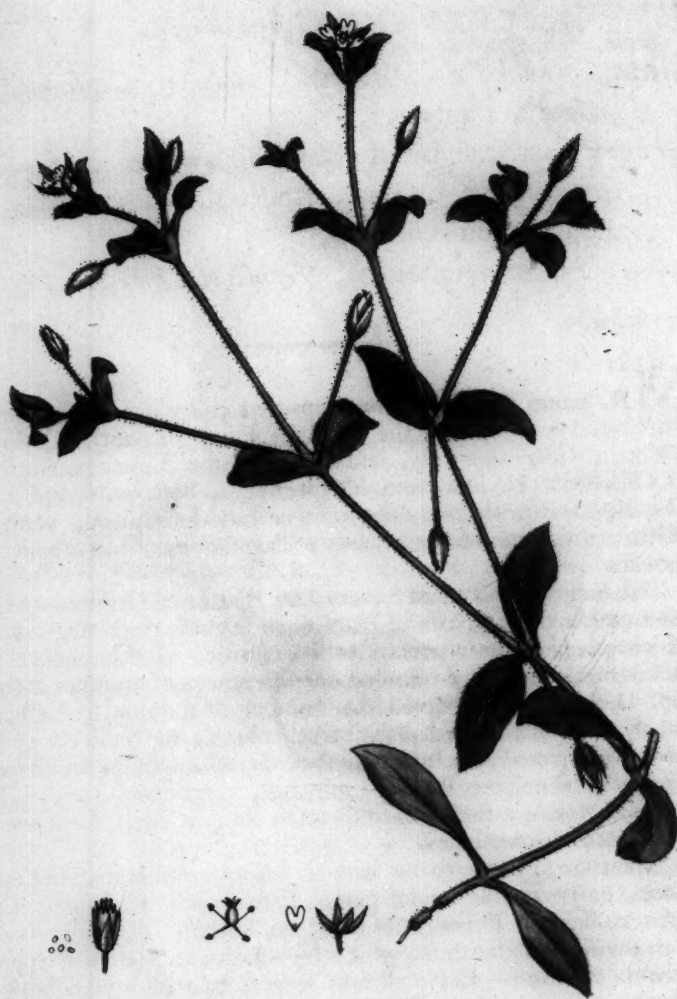
ATRIPLIX lacinialis

Fischel Sea Orchid

POLYGAMIA lacinialis

GEN. CHAR. Perianthoides. Cal. 2-lobed. Cor. none.
 Stam. 2. Style 2-lobed. Caps. 2-lobed.
 Female. Cal. 2-lobed. Cor. none. Style 2-lobed.
 Seed 1. Perianthoides.
 SPEC. CHAR. Stem perianthoides. Flowers. 1 corolla.
 flower-shaped, regular and somewhat very mostly
 beneath.
 SY. Atriplex lacinialis. Linn. Sp. Pl. 104. 1754. Fl.
 No. 44. Fl. Bot. Americae. 1. 1793. Fl. Sea.
 636. Dist. Fl. Americae. 1. 1793.
 A. lacinialis. Webb. 1793.

GATHERED last August on the beach near Landman's
 fort by Dr. Smith, who also found it plentifully at Litchfield
 Edinburgh. This is the real Atriplex lacinialis of Linnæus,
 though the description in Sp. Pl. 104. 1754. and in the
 cont. with our British lacinialis, owing to the description have
 ing been made from the consideration of several specimens in
 the Linnæan herbarium which to us appear distinct species.
 Mr. Lightfoot's and Mr. Woodward's descriptions are good, but
 we cannot agree with Mr. Hudson in referring any of the va-
 rieties of our plant to the A. lacinialis, which is probably some of
 the above-mentioned specimens, detected by Linnæus for his
 character, may belong to another.
 Our lacinialis is a very distinct and easily distinguished po-
 cies. Its stem is round, always prostrate, generally striated,
 much branching, and more or less hairy, by no means and
 the (young) leaves about white or reddish. Leaves mostly 3-
 ternate, more or less linear, but rarely wider at the base,
 deeply and usually notched and sinuated, though not generally
 laciniate (especially beneath) with white (very rarely
 which likewise appear on other parts of the plant. From the
 perianthoides flowers are scarcely 1/2 inch, and the female corolla
 are smaller. The leaf of the former we have not found in per-
 fectness. The calyx of the latter grows very large, and is ge-
 nerally furnished with linear pointed lobes, which are
 compressed linear leaf. The root is annual, and shrivels in
 the pure sand of the sea.



J. Sowerby del. March 1794.

SAGINA *ceraistoides*.*Mouse-ear Pearl-wort.*TETRANDRIA *Tetragynia*.

GEN. CHAR. *Cal.* 4-leaved. *Petals* 4. *Capf.* with 4 cells and 4 valves.

SPEC. CHAR. Stem diffuse and dichotomous. Leaves spatulate or obovate, recurved. Foot-stalks of the ripe fruit reflexed.

SYN. *Sagina ceraistoides*. *Transf. of Linn. Soc. Vol. 2.*
343.

MR. James Dickson, who discovered this plant on the sandy shores and rocks about the Firth of Forth in Scotland, flowering in June and July, laid it before the Linnæan Society in October last; and from his specimens, both wild and cultivated, Dr. Smith has drawn up a full description, printed in the 2d volume of the Society's Transactions, just about to appear.

The habit of this plant is very like that of a *Ceraistium*, but the number of the parts of fructification make it a *Sagina*, to which genus it therefore must be referred, as the genera in this natural order are founded on differences of number alone. Mr. Dickson has observed the number of stamina to be constantly four in the wild plant: truth obliges us to declare we have in cultivated very luxuriant specimens sometimes found five, though in the same flower the petals, calyx-leaves and styles were but four; a sufficient indication that the fifth stamen was an unnatural luxuriance.

The root appears to be annual. Stems prostrate, dichotomous, hairy in the upper part. Leaves like those of a *Ceraistium*, hairy. Flowers solitary, on longish foot-stalks from each division of the stem, which foot-stalks, as the fruit ripens, become reflexed. Calyx of four leaves, two of which have a membranous margin. Petals shorter than the calyx, cloven, white. Stamina still shorter. Germen oval. Styles short. Capsule bursting with 8 blunt teeth. The flowers expand only in bright weather.

SACIN A cerealeoides.
Mougeon P. 1871-1872.

TERMINALIA

GEN. CHAR. Cor. 4-5-lobed. Petals 4. Calyx with 4
cells and 4 valves.
SPEC. CHAR. Stem thin and herbaceous. Leaves
linear-lanceolate, opposite, revolute, 1-2 inches long,
the margins ciliate.
SYM. Terminalia ciliolata. Vahl, Cat. Arb. 1792.
343.

Mr. James Dickson, who has visited this place on the 15th
thence and back, about the 15th of March in morning show-
ing in rain and fog, and I have the following Society
in October 1871, and from the specimens, both with and with-
out, Dr. Smith has drawn up a full description, printed
in the 10 volume of the Society's Transactions, but about to
appear.

The habit of this plant is very like that of a *Cerealeoides*, but
the number of the parts of fructification make it a *Sacina*, to
which genus it certainly must be referred, as the petals in
this species are not so numerous as in *Cerealeoides*.
Mr. Dickson has observed the number of flowers to be con-
stantly four in the whole plant; each of these as he states we
having observed very distinctly the same fructification found in
though in the same species the petals, calyx, and style
were not four; a sufficient indication that the present species was
an unusual form.

The root appears to be annual. From the roots of the
moist, hairy in the upper part. I have the habit of a *Cerealeoides*,
terminalia, hairy. Flowers white, on longish pedicels from
each division of the stem, which look like, as the fruit ripens
become reddish. Calyx of four lobes, two of which have a
membranous margin. Petals shorter than the calyx, ciliate,
white, becoming ill defined. Corolla dark. Style short.
Capsule bursting with a blunt beak. The flowers expand
only in bright weather.

SAXIFRAGA Ailatoria.

Hairy Saxifrage.

Saxifraga Ailatoria

GERM. CRAN. *Saxifraga Ailatoria*, 5. Capf. with two
bracts, and two leaves.

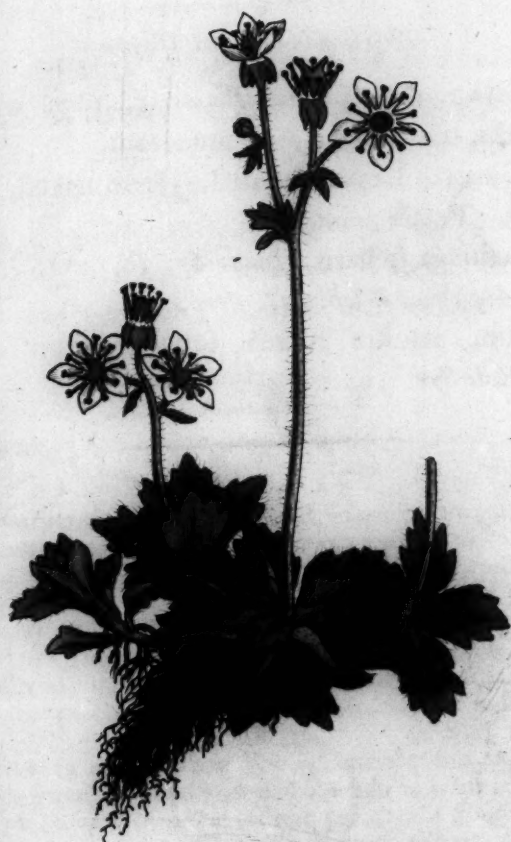
SPER. CRAN. *Saxifraga Ailatoria*, 5. Capf. with two
bracts, and two leaves.

SYN. *Saxifraga Ailatoria*, 5. Capf. with two
bracts, and two leaves.

GERM. CRAN. *Saxifraga Ailatoria*, 5. Capf. with two
bracts, and two leaves.

THE elegantness of *Saxifraga Ailatoria*, and most of its kind, is not only in its appearance, but in its growth. It is a small, creeping plant, with many small, round, fleshy leaves, which are arranged in a rosette. The flowers are small, and are borne on a long, slender stem. The plant is very hardy, and is able to withstand the most severe frosts. It is a very common plant, and is found in many places. It is a very useful plant, and is used in many ways. It is a very beautiful plant, and is a great addition to any garden.

The leaves are small, round, and fleshy, and are arranged in a rosette. The flowers are small, and are borne on a long, slender stem. The plant is very hardy, and is able to withstand the most severe frosts. It is a very common plant, and is found in many places. It is a very useful plant, and is used in many ways. It is a very beautiful plant, and is a great addition to any garden.



J. C. Sowerby del. A. L. 1794.

SAXIFRAGA stellaris.

Hairy Saxifrage.

DECANDRIA Digynia.

GEN. CHAR. *Cal.* 5-cleft. *Petals* 5. *Caps.* with two beaks, one-celled; *seeds* numerous.

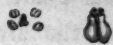
SPEC. CHAR. Leaves serrated. Stem naked, branching. Petals pointed.

SYN. *Saxifraga stellaris.* Linn. *Sp. Pl.* 572. *Huds. Fl.* An. 179. *With. Bot. Arr.* 430.

Geum palustre minus, foliis oblongis crenatis.
Raii Syn. 354.

THE elegant genus of *Saxifraga* is almost entirely alpine, and most of its species can bear a considerable degree of cold, provided they enjoy a pure air. This now before us grows plentifully in Wales, Scotland, and the northern parts of England, especially Westmoreland. Dr. Woodville favoured us with fresh wild specimens gathered last summer on Skiddaw. Its favourite station is in the black turfy margins of rills on the north sides of mountains, near their summits, where it flowers in June or July.

The roots are perennial, long and fibrous, crowned with flat stellated tufts of obovate leaves, which are hairy above, paler and smooth, sometimes purple, beneath, pointed and grossly serrated. Stalks from two to six inches high, erect, round, clothed with scattered divaricating hairs, and subdivided at the top into a sort of corymbus of from 3 to 7 or 9 flowers, each on a partial foot-stalk, at whose base is a bractea, either palmated or entire. Calyx reflexed. Petals spreading, ovate, white with 2 yellow spots near the base. Stamina all nearly equal. Antheræ and germen purple. Capsule green, with a purple ring near the base. In this species and some others the germen is completely superior; but there are others again where it is partly, if not altogether, below the flower; so that this circumstance of the situation of the germen, so important in most orders of plants, is in this genus of no consequence.



P. Sowerby del. Ap. 1796

POTAMOGETON perfoliatum,

*Perfoliate Pond-weed.**TETRANDRIA Tetragynia.*GEN. CHAR. *Cal. none. Petals 4. Style none. Seeds 4.*

SPEC. CHAR. Leaves heart-shaped, embracing the stem.

SYN. Potamogeton perfoliatum. *Linn. Sp. Pl. 182.**Huds. Fl. An. 74. With. Bot. Arr. 172. Relb. Cant.**70. Raii Syn. 149.*

VERY common in ponds and rivers in every part of England; nor is it, as far as we have observed, at all peculiar to a clay soil, as Linnæus seems to hint.

Every part of the plant, except the flower-stalks, is completely immersed in the water, so that it is only to be discovered by the spikes of flowers about July and August standing a little above the surface, and abounding in whitish pollen. It should seem the respiration of such truly aquatic vegetables must be as different from the respiration of those which inhale atmospheric air, as the breathing of fishes is from that of beasts and birds. Accordingly we find their leaves of an extremely different texture, pellucid like oiled paper (as Haller remarks), very vascular, harsh and ribbed, but often extremely brittle. The surface of such plants, like that of aquatic animals, is destitute of hair or down of any kind.

The stalks of this Pond-weed are very long, round, with leaves crowded about the top and branches. These leaves might rather be called ovate than heart-shaped, at least in the most common appearance of the plant. The petals are of a dull purple, and so situated that the air easily passes between them to waft the pollen to the stigma. The seeds are compressed, and shining.

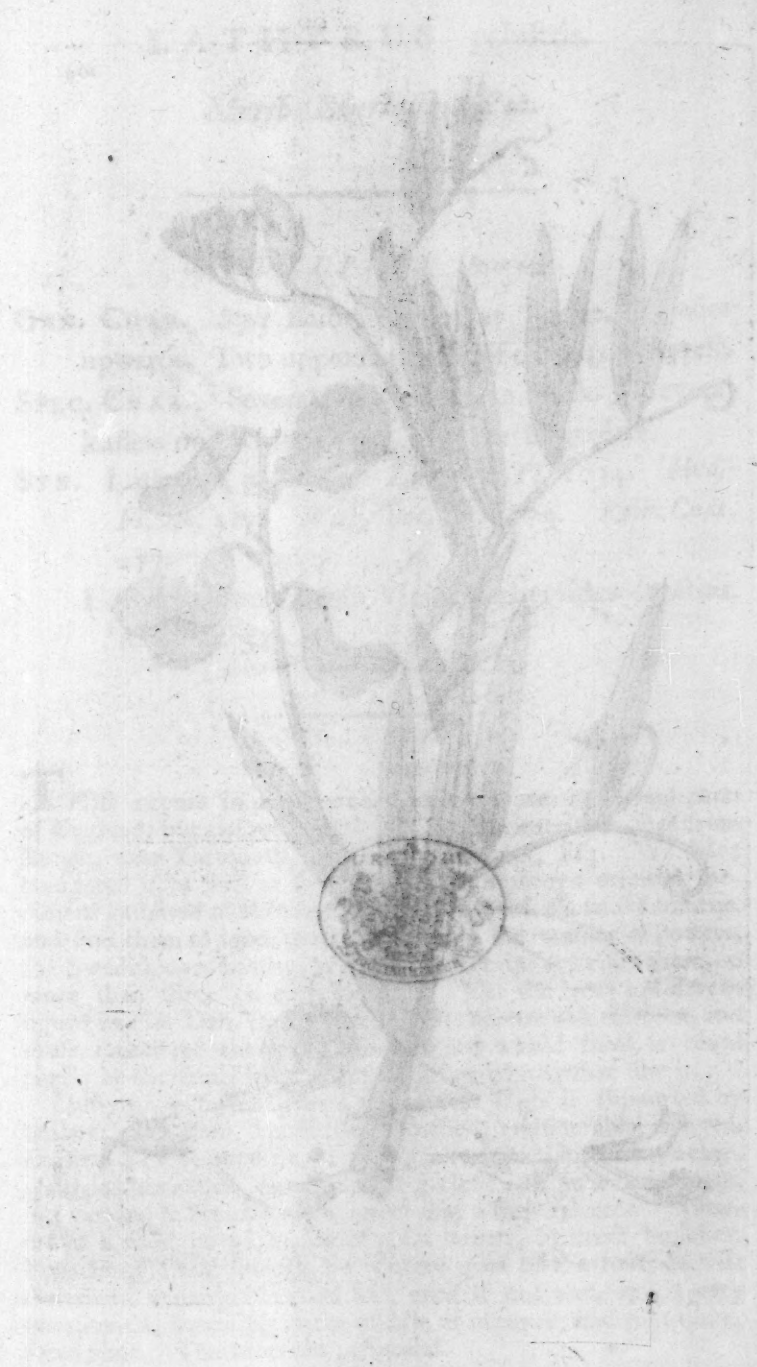
POTAMOGETON perfoliatus.

Pectinatus Pond weed.

TETRAHYDRIS Virginica.

Gen. CHAR. Col. none. Seeds 4. Style none. Seed 4.
Spec. CHAR. Leaves broad, rounded, and among the stem.
Syn. Potamogeton perfoliatus. Linn. Sp. Pl. 182.
Hook. Bot. Beech. 179. Rab. Can.
J. R. R. 182.

VERY common in ponds and rivers in every part of England; not so in the west, where it is not so common. It is a clay soil, as I found it to be.
Every part of the plant, except the leaves, is completely immersed in the water, and it is only to be discovered by the spikes of flowers which rise and are distinguished above the surface, and resembling in which pollen. It should seem the vegetation of such truly aquatic vegetables must be as different from the vegetation of those which inhale atmospheric air, as the breathing of fishes is from that of birds and birds. Accordingly we find the leaves of an extremely different texture, pellucid like oil paper (as I have remarked), very elastic, smooth and ribbed, but often extremely brittle. The surface of such plants, the skin of aquatic animals, is destitute of hair or down of any kind.
The stalks of this Pond weed are very long, round, with leaves crowded about the stem and pointed. These leaves might rather be called water than heart-shaped, at least in the most common appearance of the plant. The petioles are of a dull purple, and is toward the stem the cavity passes between them to reach the pollen to the stigma. The seeds are compressed, and thin.



Printed by



LATHYRUS palustris.

Marsh Everlasting-Pea.

DIADELPHIA Decandria.

GEN. CHAR. *Style* flattened, downy above, broader upwards. Two upper segments of the *calyx* shortest.

SPEC. CHAR. Several flowers on a stalk. Several leaflets on each tendril. *Stipulæ* lanceolate.

SYN. *Lathyrus palustris*. *Linn. Sp. Pl.* 1034. *Huds. Fl. An.* 317. *Witb. Bot. Arr.* 773. *Relb. Cant.* 273.

L. viciæformis, seu *Vicia Lathyroides nostras*. *Raii Syn.* 320.

THIS occurs in moist woods and pastures in several parts of England, but not commonly. Our specimen was sent from Burgh, near Yarmouth, by Dawson Turner, Esq. We have compared it, as well as some of Mr. Humphrey's original specimens gathered at Ranaugh (*see Huds.*) with those of Linnæus, and find them to agree exactly, except in the number of flowers, the Swedish ones having, as Professor Retzius describes them, no more than three on each footstalk. Yet the very indifferent figure in Flo. Dan. (t. 399.) represents as many as thirteen, and those rather red than blue; so that one would think it could hardly be the same species, yet we know of no other like it.

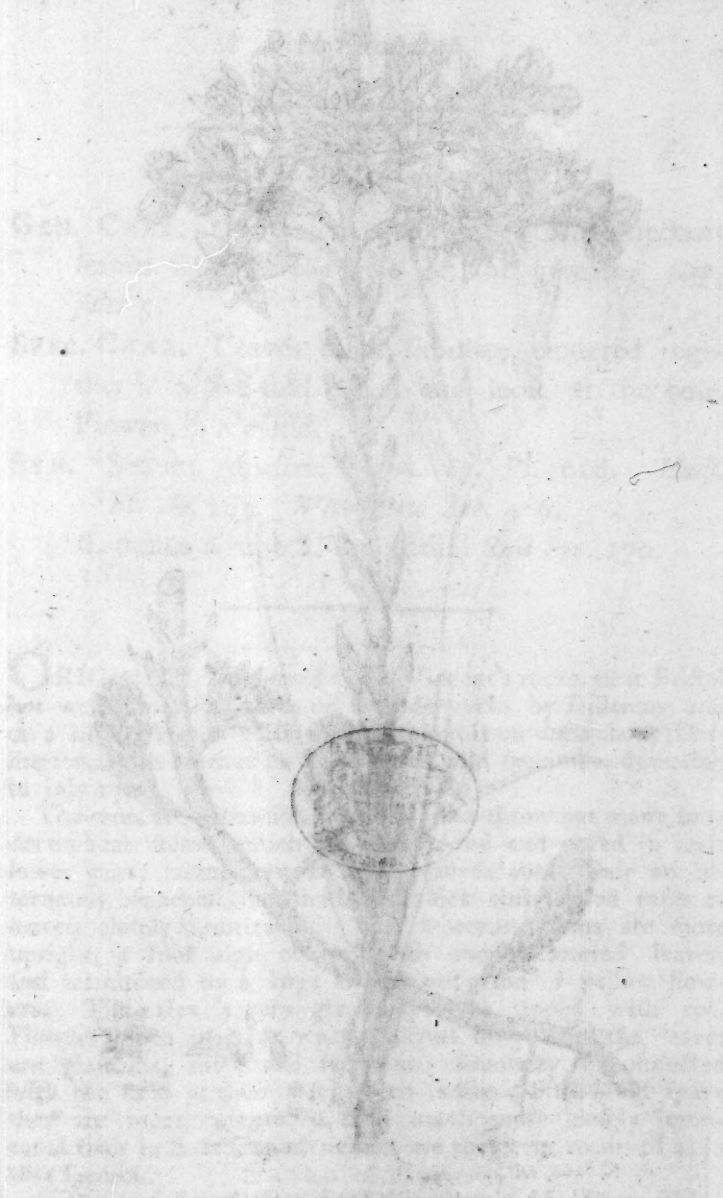
Lathyrus palustris grows 3 or 4 feet high if supported by bushes; the stem but little branched, considerably winged. Leaflets 4 or 6, opposite, or rarely alternate, lanceolate, acute, glaucous beneath. Tendrils 2 or 3-cleft. *Stipulæ* lanceolate, but varying in breadth, their lower lobe a little falcated. Flowers of a vivid purplish blue of great beauty, in erect bunches. Pods longish and smooth, as is every part of the herbage. It thrives in a garden in good soil, even if not wet, and is very ornamental, flowering in the middle of summer, and continuing some time. The roots are perennial.

L. A. T. H. Y. R. U. S.

Mar. 1881

DISPATCH

ST. D. C. M. M. M.



ST. D. C. M. M. M.



J. Sowerby del. Apr. 1794.

SEDUM rupestre.

Rock Stonecrop.

*DECANDRIA Pentagynia.

GEN. CHAR. *Cal.* 5-cleft. *Petals* 5, with five nectariferous scales at the base of the germen. *Cap-sules* 5.

SPEC. CHAR. Leaves thick, subulate, clustered together in a five-fold order, and loose at the base. Flowers in a cyme.

SYN. *Sedum rupestre.* *Linn. Sp. Pl.* 618. *Huds. Fl. An.* 195. *Witsb. Bot. Arr.* 466.

S. minus a rupe S. Vincentii. Raii Syn. 270.

ORIGINALLY observed on St. Vincent's rocks, near Bristol hot-wells, and afterwards on Chedder rocks by Dillenius, and on a hill in Wales. Mr. Robson found it on walls about Darlington, from whence he sent us this wild specimen, flowering in July 1792.

The roots are perennial, branched, and throw out many long decumbent stems, which are round, red and naked in their lower part, taking root in many places; above they are alternately branched, terminating in thick club-shaped tufts of leaves, closely imbricated. The flowering stems are more upright, a foot high, clothed with more scattered leaves, and terminated by a large handsome cyme of yellow flowers. The calyx is very glaucous, often tipped with red. Flowers often in 6 or 7 parts instead of 5. All the leaves are glaucous, thick and succulent, subulate, unconnected with the stem at their base, which is like a little blunt spur; they are more compressed, and much more closely imbricated than in *S. reflexum*, neither are they ever recurved as in that species.

Dillenius first well ascertained this plant in his Hortus Elthamensis, where he has given a good figure of it, *tab.* 256, *f.* 333.

Flora Danica, tab. 59, is a very different plant, the *Sedum saxatile* of Wiggers, *Flo. Holst.* 35.

SEDUM rupestris.

Rock Stonecrop.

DECAUDBRIA

Gen. CHAR. Cal. 5-lobed. Petals 5, with five narrow-
 foveous lobes at the base of the germens. Sep-
 als 5.

Spec. CHAR. Leaves thick, tubular, clustered to-
 gether in a five-fold order, and loose at the base.
 Flowers in a cyme.

SYN. Sedum rupestris. Linn. Sp. Pl. 618. Hoff.
 Fl. de 175. Webb. Bot. Brit. 4. 6.

2. minus a rupe S. Vincentii. Rostk. 270.

ORIGINALLY observed in St. Vincent's rocks, near British
 post, and afterwards on Cradock's rocks by Dr. Withering, and
 on a hill in Wales. Mr. Keston found it on walls about Dar-
 lington, from whence he first brought this specimen, flowering
 in July 1752.

The roots are perennial, branched, and throw out many long
 horizontal stems, which are round, red, and naked in their
 lower part, taking root in many places; above they are sh-
 orter, branched, terminating in blackish-brown tips of
 leaves, closely imbricated. The flowering stems are more
 upright, a foot high, clothed with narrow lanceolate leaves,
 and terminated by a large handsome cyme of yellow flow-
 ers. The calyx is very glaucous, with a tipped with red.
 Flowers often in 5 or 7 parts instead of 5. All the leaves
 are glaucous, thick and imbricated, tubular, unconnected
 with the stem at their base, and in the last part they
 they are more compressed, and with more closely imbricated
 each than in 5. Neither are they ever received as in
 that species.

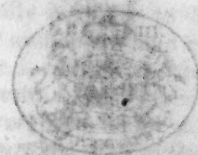
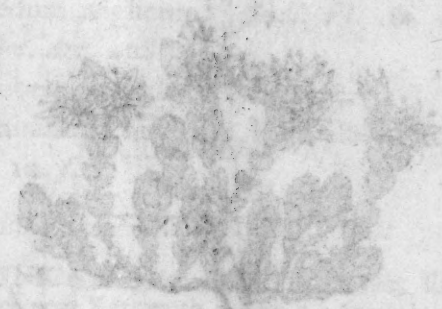
Withering has well ascertained this plant in his History of
 insects, where he has given a good figure of it, (tab. 11. f. 1.)
 From Dr. Keston, and is a very distinct plant, the bottom
 of Withering, p. 115.

THE
SADTUM

THE

THE

THE



THE



SEDUM anglicum.

English Stone-crop.

DECANDRIA Pentagynia.

GEN. CHAR. *Cal.* 5-cleft. *Petals* 5, with 5 nectariferous scales at the base of the germen. *Capsules* 5.

SPEC. CHAR. Leaves thick, ovate, gibbous and loose at the base, alternate. Cyme of two branches.

SYN. *Sedum anglicum.* *Huds. Fl. An.* 196. *Witb. Bot. Arr.* 468.

S. rubens. *Lightf. Fl. Sc.* 235.

S. minimum non acre, flore albo. *Raii Syn.* 270.
t. 12. f. 2.

COMMUNICATED by Dawson Turner, Esq. from the sandy downs near Yarmouth, where it is very abundant, as well as on the mountains of the north. Dr. Smith gathered it in Westmoreland, and on the rock of Dumbarton-castle in Scotland.

The root is generally supposed to be annual, throwing out many stems, branched and decumbent at their base, then upright and more simple, round, reddish, clothed with alternate rather thick-set leaves, and terminated by small bifid or trifid cymes of flowers. The leaves are very thick and succulent, oval, glaucous, with a blunt protuberance at their base, below their attachment to the stem. The flowers are at first thickly clustered together; but as the cyme expands, they appear more remote, one always standing at the first divarication of the cyme. The calyx resembles the leaves, and is obtuse. The petals have a reddish rib, and are often spotted with the same colour at their tip. The capsules are membranous and smooth.

This species has cost us no small trouble to determine accurately. Of the plants which approach it, *Sedum annuum* of Linnæus has a yellow flower, and much shorter and broader leaves. *S. atratum* has leaves like *S. annuum*, and very blunt purple capsules, with red and white petals. *Crassula rubens* has a sharper calyx than our plant, and rough, spreading, strong (not membranous) capsules. Mr. Hudson and Mr. Lightfoot were therefore right in making this a species distinct from all those of Linnæus.

SEDUM anglicum.

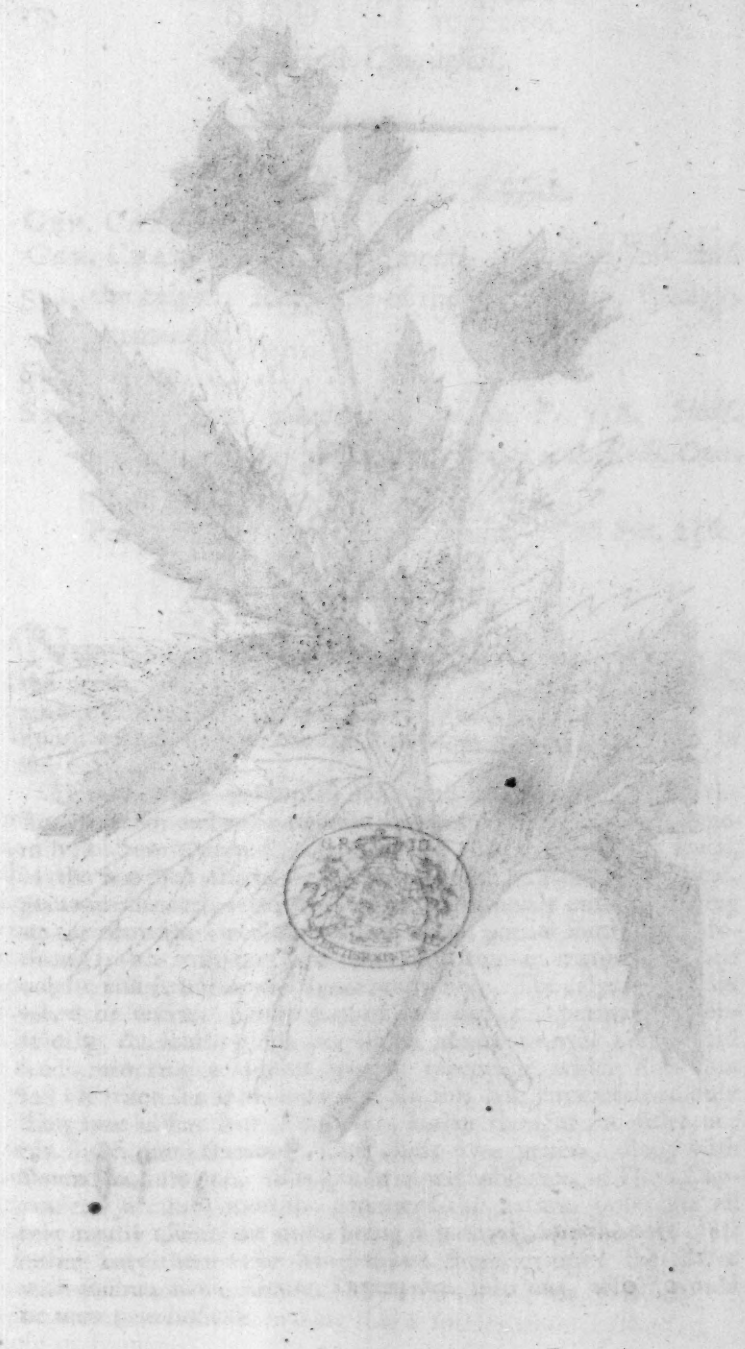
English Stone-crop.

DECKENBERGIA

Grn. CHAR. Cal 5-6. Petals 5, with 5 nectaries.
 1000 leaves at the base of the stem. Capsules 2.
 Spec. CHAR. Leaves thick, ovate, gibbous and loose
 at the base, alternate. Cyme of two branches.
 Str. Sedum anglicum. Herb. Brit. Mus. 186. With.
 Bot. Voy. 468.
 2. rubens. Light. Brit. Mus. 186.
 2. minimum non sicc. Herb. Brit. Mus. 186.
 A. 12. 186.

COMMUNICATED by Dawson Turner, Esq. from the
 sandy downs near Yarnmouth, where it is very abundant as well
 as on the mountains of the north. Dr. Smith gathered it in
 Westmoreland, and on the rock of Dunbaron castle in Scot-
 land.
 The root is generally supposed to be annual, throwing out
 many stems branched and decumbent at their base, then upright
 and more rigid, round, clothed with alternate rather
 thick-set leaves, and terminated by small dield or rigid cymes
 flowers. The leaves are very thick and succulent, oval, glan-
 cious, with a blunt protuberance at their base, below which are
 racemes to the stem. The flowers are at first thickly cyg-
 tered together, but as the cyme expands they appear more re-
 mote, and always standing at the first division of the cyme.
 The calyx resembles the leaves, and is oblong. The petals have
 a reddish rib, and are often marked with the same colour at their
 tip. The capsules are numerous and toothed.
 This species has cost us no small trouble to determine ac-
 curately. Of the plants which approach it, Sedum minimum of
 Linnæus has a yellow flower, and much thinner and broader
 leaves. A. minimum has leaves like S. minimum, and very blunt
 purple capsules, white red and white petals. Gravelle's species has
 a sharper calyx than our plant, and rough, serrated leaves
 (not membranous) capsules. Mr. Hudson and Mr. Lightfoot
 were correct, & right in making this a species distinct from all
 those of Linnæus.

COMARUM





2 10

J. G. Smith del. Apr. 11 1796

COMARUM palustre.

*Marsh Cinquefoil.**ICOSANDRIA Polygynia.*

GEN. CHAR. *Cal.* in 10 segments. *Petals* 5, less than the calyx. *Receptacle* of the seeds ovate, spongy, permanent.

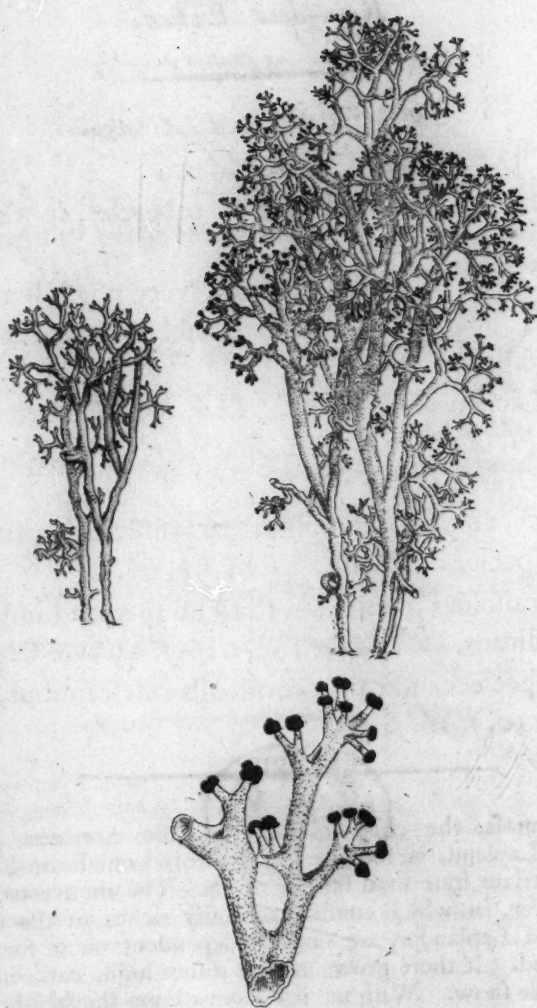
SPEC. CHAR.

SYN. *Comarum palustre.* *Linn. Sp. Pl.* 718. *Huds. Fl. An.* 227. *With. Bot. Arr.* 540. *Relb. Cant.* 200.

Pentaphylloides palustre rubrum. *Raii Syn.* 256.

NOT unfrequent in muddy bogs and ditches, especially in the north, and in Norfolk, flowering in June and July. It is among our more handsome native plants, and may be introduced with advantage among American shrubs, in a border of bog earth.

The roots are perennial, long and creeping, and, like the stem, round, and of a reddish brown. The leaves are generally, but not always smooth: leaflets mostly five, rarely seven, in the top leaf three, more or less obtuse, strongly serrated, glaucous beneath, with a pair of stipulæ (mostly entire) running up the common leaf-stalk. Flowers on partial footstalks, produced in an irregular, somewhat dichotomous manner. Their colour and structure our figure expresses. The calyx leaves are lobed or entire. Every part of the flower is permanent, enfolding the fruit, which consists of numerous oval compressed seeds, covering a conical spongy receptacle, which does not fall off when the seeds are ripe. In this last circumstance only the genus differs from *Fragaria*. Haller thought the difference too slight, and therefore joins these two genera, along with *Potentilla*, into one. But Linnæus well observes, in *Flora Lapponica* (*sec.* 209), that the genera of this natural order are all very nearly allied (the order being *so* natural), and that we must either keep them as he has defined them, or unite the above with *Rubus*, *Rosa*, *Geum*, *Dryas*, &c. into one, which would be very paradoxical.



J. Sowerby del. Ad 1 1796

LICHEN rangiferinus.

Rein-deer Lichen.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Shrubby, tubular, very much branched, and hoary; the little branches divaricated and nodding.

SYN. Lichen rangiferinus. *Linn. Sp. Pl.* 1620. *Huds. Fl. An.* 557. *With. Bot. Arr. V.* 3. 216. *Relb. Cant.* 438.

Lichenoides tubulosum ramosissimum, fruticuli specie, candicans. *Raii Syn.* 66.

Coralloides montanum fruticuli specie ubique candicans, *Dill. Musc.* 107. t. 16. f. 29.—& C. frutic. specie candicans, corniculis rufescentibus, *ibid.* 110. t. 16. f. 30.

THIS moss, the chief clothing of the northern alpine tracts of Lapland, is found every where on our heaths, but in a less luxuriant state than farther north. The numerous herds of rein-deer, in which consists the only riches of the simple sequestered Laplander, are entirely dependent on it for their winter food. It there grows at least a foot high, covering the ground like snow. With us it seldom attains the height of 6 inches, and is generally much less.

The species is easily known by its branched and tufted figure. Its surface is hoary, or rough with minute warts. It is tubular within, and the stem thin and brittle when very dry or very wet. Dillenius justly says, it is not perforated at the divarications. Hagen (quoted by Mr. Relhan) mentions the contrary. The variety β of Hudson, called *sylvaticus* (fig. 30 of Dillenius), is a trifling one, having reddish or brownish tips, which colour sometimes occurs in other parts of the plant. The fructification is not common. It consists of brown tubercles.

LICHEN rangiferinus.

Rein-deer lichen.

CRYSTOGAMIA.

Gen. Char. Male, branched, warty.

Female, smooth fields or tubercles, in which the seeds are imbedded.

Spec. Char. Shrubby, tubular, very much branched, and hoary; the little branches divaricated and nothing.

Stem. Lichen rangiferinus. Linn. Sp. Pl. 1250. Hark.

Fl. Sw. 557. Webb. Bot. Sw. 3. 216. Rab.

Carr. 438.

Lichenoides tubulosus rangiferinum, fruticuli.

Species canadensis. Karst. 17. 66.

Caulothales monophylli fruticuli species nudus can-

dianus. DC. Myc. 107. 1. 16. A. 22. — & C. frutic.

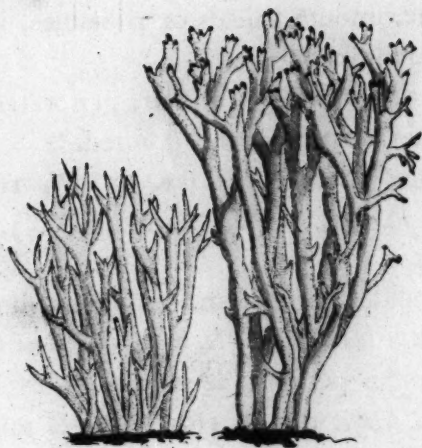
Species canadensis, corniculis tuberculosis, W. & A.

110. 1. 16. A. 22.

THIS moss, the chief clothing of the northern alpine tracts of Lapland, is found every where on our heaths, but in a less luxuriant state than farther north. The numerous heads of rein-deer, in which consists the only riches of the simple forested Laplanders, are entirely dependent on it for their winter food. It there grows at least a foot high, covering the ground like snow. With us it seldom attains the height of 6 inches, and is generally much less.

The species is easily known by its branched and tufted habit. Its surface is hoary or rough with minute warts. It is tubular within, and the stem thin and brittle when very dry or very wet. Dillenius justly says it is not perforated at the distichion. Hagen (quoted by Mr. Reichenow) mentions the contrary. The variety of Hudson, called *Svenssonii* (in honor of Dillenius), is a striking one, having reddish or brownish tips, which colour sometimes occurs in other parts of the plant. The fruticose form is not common. It consists of brown tubercles.





J. Sowerby Del. 1794

LICHEN uncialis.

Short perforated Lichen

CRYPTOGAMIA Alga.

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Shrubby, tubular, perforated; the little branches very short and pointed.

SYN. Lichen uncialis. *Linn. Sp. Pl.* 1621. *Huds. Fl. An.* 555. *With. Bot. Arr. V.* 3, 218. *Relb. Cant.* 439.

Lichenoides tubulosum, cauliculis mollioribus & crassioribus, majus & minus. *Raii Syn.* 67.

Coralloides perforatum majus, molle & crassum. *Dill. Musc.* 98. *t.* 16. *f.* 21—& minus, molle & tenue. *Ibid.* 99, *f.* 22.

LICHEN uncialis is found on heaths nearly as common as rangiferinus, from which it differs in being much less branched, and not tufted; the branches are shorter and awl-shaped, the terminal ones brown, and forming a sort of radiated crown, of sometimes 6 or 8 points. The perforations at the divarications of the stem are very wide, and seldom wanting; whereas in rangiferinus they are scarcely (if at all) to be found. The fructifications are very minute tubercles at the tips of the little brown terminal branches.

This plant varies in height from 1 to 2 inches, as well as in thickness; hence the different species and varieties of authors. Sometimes it has a few scaly leaves on the stem, and is much branched, see Mr. Hudson's variety γ —perhaps the last may be a distinct species.

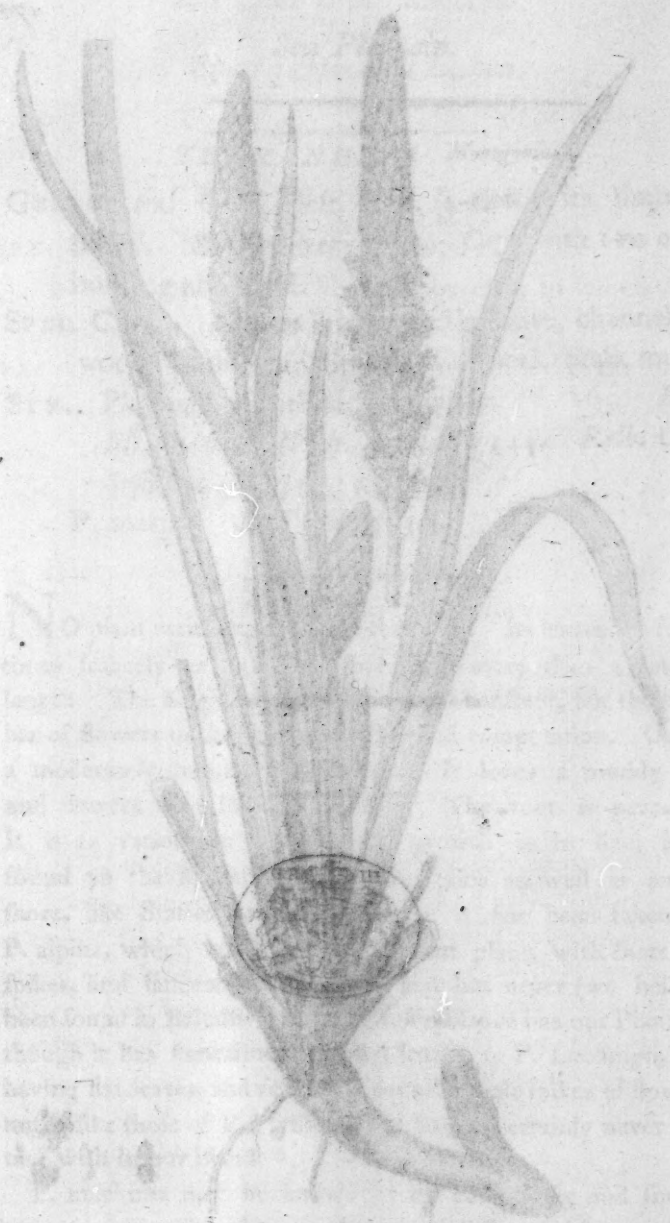
LICHEN uncialis.

Short perforated Lichen

CRYPTOGAMIA algae.

Gen. CHAR. Male, fructified white.
Female, smooth fields or tubercles, in which the seeds are imbedded.
Spec. CHAR. Shrubby, imbricate, perforated; the little branches very short and pointed.
Syn. Lichen uncialis. Linn. 29. p. 1621. Webb.
L. fr. 552. Webb. Bot. Bry. N. 3. 218. Rab.
Carr. 819.
Lichenoides tubulosum, caulescens mollisimum & crassifolium; majus & minus. Rab. 29. 67.
Cauloides perforatum majus, molle & crassum.
Dill. Algae. 28. 1. 10. 21—22 minus, molle & tenue. Lich. 99. 22.

LICHEN uncialis is found on heaths nearly as common as Lichen fructuosus, from which it differs being much less branched, and not so thick; the branches are shorter and well-shaped, the terminal ones brown, and bearing a sort of radiated crown, of 6 or 8 points. The perforations at the divisions of the stem are very wide, and seldom wanting; whereas in fructuosus they are scarcely (if at all) to be found. The fructifications are very minute tubercles at the tips of the little brown terminal branches.
The plant varies in height from 1 to 2 inches, as well as in thickness; hence the different species and varieties of authors. Sometimes it has a few leafy stems on the heath, and is much branched, the Mr. Hudson's variety γ —perhaps the last may be a distinct species.



175.



J. Sowerby del. May. 1754.

PLANTAGO maritima.

Sea Plantain.

TETRANDRIA Monogynia.

GEN. CHAR. *Cal.* 4-cleft. *Cor.* 4-cleft; its limb reflexed. *Stamina* very long. *Caps.* with two cells, bursting all round.

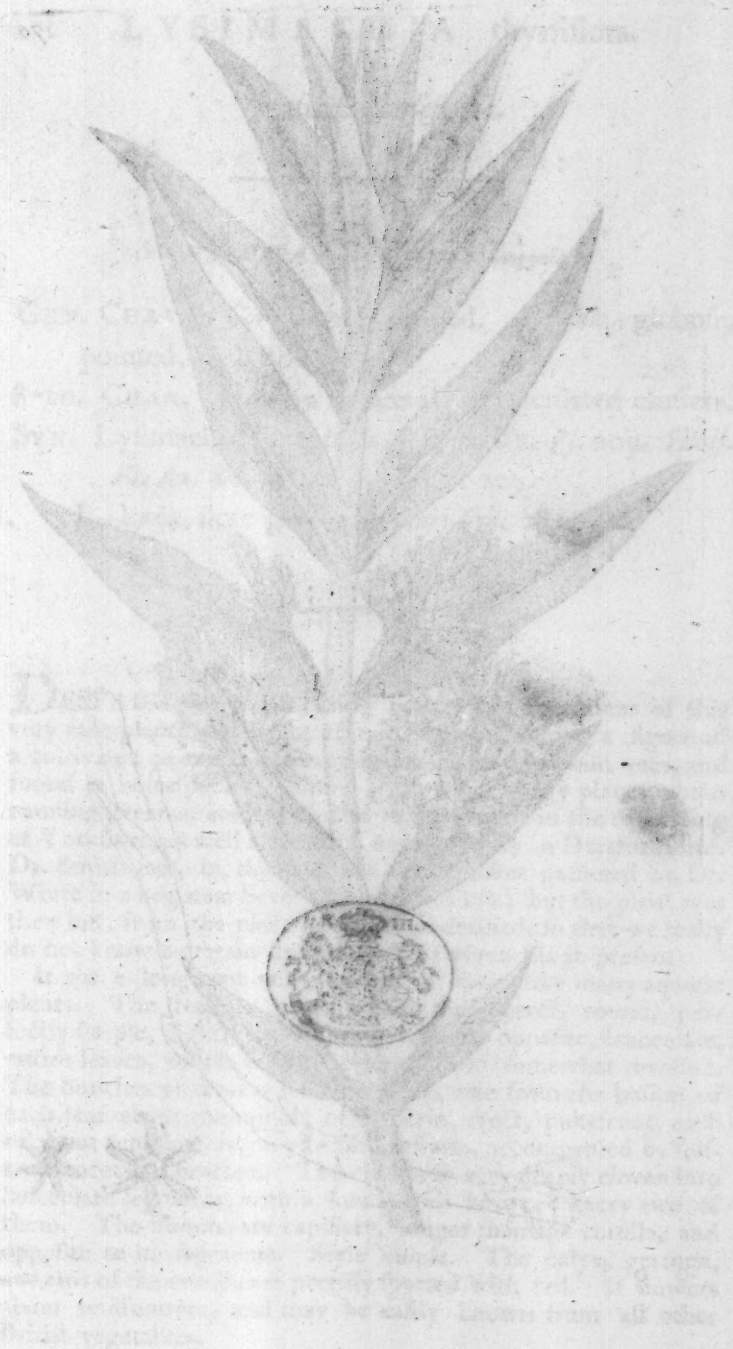
SPEC. CHAR. Leaves linear, mostly entire, channelled, woolly at the base. Spike cylindrical. Stalk round.

SYN. *Plantago maritima.* *Linn. Sp. Pl.* 165. *Huds. Fl. An.* 64. *With. Bot. Arr.* 144. *Relb. Cant. Suppl.* 2. 9.

P. marina. *Rail Syn.* 315.

NO plant varies more in size than this. Its leaves are sometimes scarcely an inch, at other times more than a foot in length. The height of the stalk is more constant, but the number of flowers in the spike varies beyond computation. Ours is a moderately luxuriant specimen. It loves a muddy soil, and flowers late in the summer. The root is perennial. It is as various in its place of growth as in size, being found on the highest of our mountains as well as on the shore, like *Statice armeria*. Hence it has been taken for *P. alpina*, which last is a very different plant, with short oval spikes, and lanceolate flat leaves, and has never (we believe) been found in Britain. Still less resemblance has our *Plantago*, though it has sometimes dentated leaves, to *P. Loeflingii*, that having flat leaves, and very short roundish pale spikes of flowers, much like those of *P. Pycnophyllum*, and having certainly never been met with in our island.

P. maritima may be known by its very fleshy and smooth leaves, channelled above and concave below, with a tuft of wool at their base, which indeed occurs in other species. The spike, however short, is always cylindrical.





J. Smiley del. Nov. 1794

LYSIMACHIA thyrsiflora.

Tufted Loofeftrife.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. wheel-shaped. Capsule globose, pointed, with 10 valves.

SPEC. CHAR. Flowers in lateral pedunculated clusters.

SYN. *Lyfimachia thyrsiflora.* Linn. *Sp. Pl.* 209. *Huds. Fl. An.* 86. *With. Bot. Arr.* 209.

L. lutea, flore globoso. *Raii Syn.* 283.

DESPAIRING of procuring recent wild specimens of this very rare plant, we cannot refrain from exhibiting a figure of a cultivated one, which has been compared with wild ones, and found in no respect to differ. It grows in boggy places, about running streams, and was found in Ray's time in the east riding of Yorkshire, as well as about King's Langley in Hertfordshire. Dr. Smith saw, in the year 1781, specimens gathered by Dr. White in a bog near Severus's hills at York; but the plant was then lost, from the place having been drained, so that we really do not know a certain station of this *Lyfimachia* at present.

It has a long root with whorls of fibres like many aquatic plants. The stem 10 or 20 inches high, erect, round, perfectly simple, slightly woolly, covered with opposite, lanceolate, entire leaves, which are pale beneath, and somewhat revolute. The bunches of flowers stand opposite, one from the bosom of each leaf about the middle of the stem, erect, pubescent, each of about ten flowers, on partial footstalks, accompanied by solitary lanceolate bractæ. The corolla is very deeply cloven into lanceolate segments, with a small tooth between every two of them. The stamina are capillary, longer than the corolla, and opposite to its segments. Style simple. The calyx, germen, and tips of the corolla are prettily spotted with red. It flowers about midsummer, and may be easily known from all other British vegetables.



H. L. Swartz del. 1793.

CARDUUS pratensis.

*Meadow Thistle.**SYNGENESIA Polygamia-aqualis.*

GEN. CHAR. *Cal.* ovate, imbricated with spinous scales. *Receptacle* hairy.

SPEC. CHAR. Leaves sessile, half embracing the stem, lanceolate, slightly dentated, ciliated with small unequal spines. Stem mostly single-flowered.

SYN. *Carduus pratensis.* Jacq. *Flo. Austr.* vol. i. t. 42.

Huds. Fl. An. 353. *With. Bot. Arr.* 877.

C. dissectus. *Huds. Fl. An. ed.* 1. 307.

C. heterophyllus. *Relb. Cant.* 306.

THIS thistle, though found in meadows in various parts of England, has never been well understood. It appears not to be described by Linnæus, nor is it in his Herbarium. The only species of his that it can possibly be is the *dissectus*, a plant he took up from books, without having it in his Herbarium, and which therefore we cannot certainly ascertain. Neither dare we positively say with Dr. Stokes, that this is *C. heterophyllus* of Lightfoot, though we suppose it may be so. Our specimen was gathered near Bromley in Kent, flowering in June.

The root is perennial, creeping, with long fibres. Stem erect, 1 or 2 feet high, mostly simple, and terminated with one (rarely more) erect flower, its surface striated and cottony. Leaves several at the lower part of the stem, lanceolate, some slightly waved and dentated, others entire, all ciliated with unequal small spines, and green above, cottony (not very white) beneath. The upper leaves half embrace the stem, and become gradually smaller and more distant. A very small one generally stands near the flower. Scales of the calyx not very sharp, purplish, clothed with a web. Corolla, style and stamina nearly of an uniform purple.

We beg leave to recommend *C. helenioides* and *heterophyllus* to the examination of British botanists, as the specimens in the Linnæan Herbarium appear really distinct species.

CARDUUS pratensis.

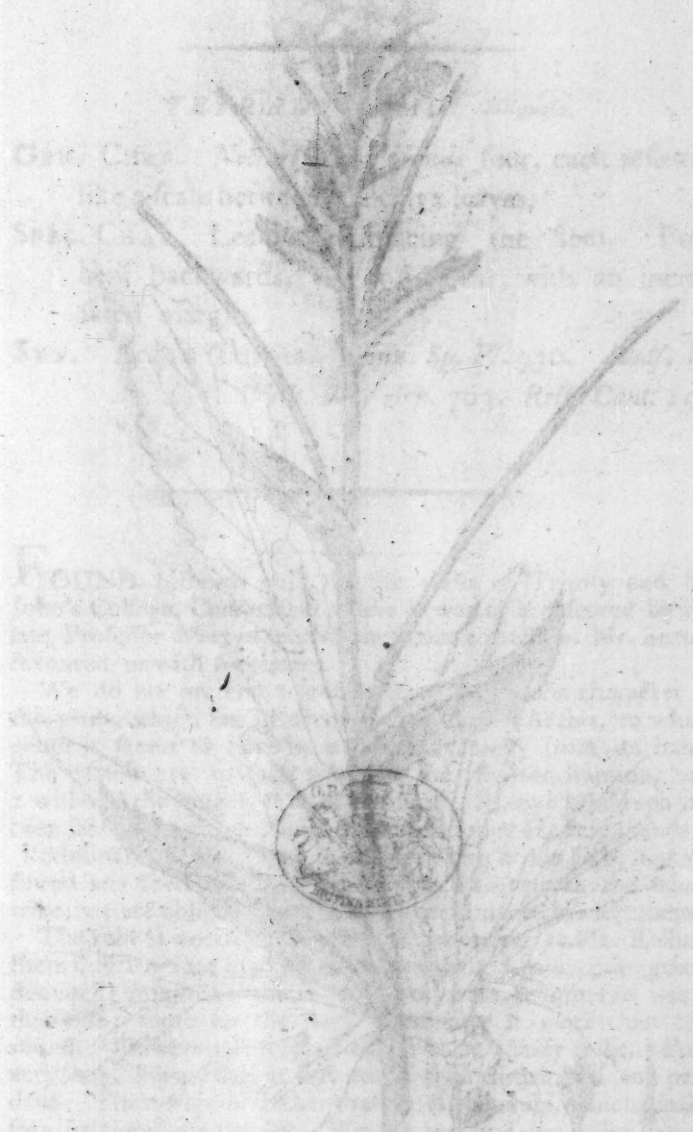
Meadow Thistle.

SYNONYMS: *Carduus arvensis* L.GEN. CHAR. Cal. white, tinged with purple
lobes. Raylets many.SPEC. CHAR. Leaves radical, entire, with
them lanceolate, slightly notched, channelled
small, unequal spaces, stem mostly erect, how-
ever.Stem. *Carduus pratensis*, L. *Carduus*, L. 1753, p. 144.RAY, F. N. 553. *Carduus*, L. 1753, p. 144.C. *pratensis*, L. *Carduus*, L. 1753, p. 144.C. *pratensis*, L. *Carduus*, L. 1753, p. 144.

THIS little species found in meadows in various parts of England, has never been well understood. It appears not to be described by Linnaeus, nor in any of his works. The only species of his that it can possibly be is the little *Carduus* that took up from some English meadow in his first voyage, and which therefore we cannot certainly determine. It is not at all positively by with the others, but it is not the same as the *Carduus* lightfoot, though we suppose it may be the same. The specimen was gathered near Brompton in Kent, growing in sand.

The root is perennial, branching with many fibres. Stem erect, 1 or 2 feet high, mostly simple and terminated with one (rarely more) erect flower. Leaves radical and cauline, lanceolate, slightly wavy and slightly notched, the lower ones more so, the upper ones less so, and green above, and green and white below (not very white) underneath. The upper leaves are smaller, the stem, and become gradually smaller and more distant. A very small one generally forms near the flower. Scales of the calyx are very sharp, purple, clothed with a web. Corolla tube and filaments nearly of an uniform purple.

We have leave to recommend *C. pratensis* and *heterophyllus* to the examination of British botanists, as the specimens in the Linnaean Herbarium appear really distinct species.



ARABIS Turrita.

*Tower Wall-Cress.**TETRADYNAMIA Siliquosa.*

GEN. CHAR. *Nectariferous glands* four, each reflexed like a scale between the calyx leaves.

SPEC. CHAR. Leaves embracing the stem. Pods bent backwards, flat and linear, with an incrassated margin.

SYN. *Arabis Turrita*. *Linn. Sp. Pl.* 930. *Huds. Fl. An.* 293. *Witb. Bot. Arr.* 703. *Relb. Cant.* 255.

FOUND hitherto only on the walls of Trinity and St. John's College, Cambridge, where it was first observed by the late Professor Martyn, and from whence the Rev. Mr. Sutton favoured us with specimens.

We do not pretend to answer for the generic character of this plant, which but ill accords with that of *Arabis*, to which genus it seems to have been referred chiefly from its habit. The glands are in fact 2 within the shorter stamina, and 2 without the longer, "as in *Brassica*" (*Martyn*). Much has been said and written about the insufficiency of these glands to discriminate the genera of this order; but as we have not yet found any fixed principles upon which to reform the whole tribe, we are obliged to take things as Linnæus has left them.

The root is woody, and biennial, according to Mr. Relhan. Stems full a foot high, simple, upright. Leaves pale green, dentated, roughish; the radical ones ovate, lengthened out at their base; those on the stem embracing it more than half round. Flowers pale sulphur-coloured, in a leafy spike. Pods very long, linear, flat, at first erect, then divaricated and pendent. Their edge is thicker than in *A. pendula*, which Haller says is the same species. We do not find the calyx at all rugose. The flowers appear in May.



J. L. Smith del. 1794.

PYRUS Malus.

Wild Apple, or Crab-tree.

ICOSANDRIA Pentagynia.

GEN. CHAR. *Cal.* 5-cleft. *Petals* 5. *Apple* inferior, with 5 cells, and several seeds.

SPEC. CHAR. Leaves serrated. Flowers in a sessile umbel.

SYN. *Pyrus Malus.* *Linn. Sp. Pl.* 686. *Huds. Fl.*

An. 216. *Wuib. Bot. Arr.* 517. *Relb. Cant.* 191.

Malus sylvestris. *Raii Syn.* 452.

THE common original of all our valuable varieties of apples grows wild in almost every natural grove or thicket, nor is it unfrequent in hedges. When about the end of May it is covered with bloom, few if any shrubs surpass the crab in beauty. Its elegant rose-colour bears a greater proportion to the white than in any cultivated variety, except the codling.

The tree is of a moderate size, distinguishable from our forest trees, when without leaves, by its very irregular branches, and particularly its short, knobby, and rugged bearing shoots, from which alone the leaves and flowers are produced. The leaves are roundish, or oval; their serratures disappear sometimes by cultivation, but not so completely as in the pear-tree. The flower-stalks form a simple terminal umbel, and are rarely subdivided. They are mostly covered with soft down, as is the inside (and sometimes the outside) of the calyx. Fruit small, hard, and very acid, yellowish green with a tinge of red.

The wood is hard, with a fine grain. The acid liquor of the fruit, called verjuice, is useful to cure sprains and scalds. See Dr. Withering's concise and full account of the uses of this and the pear-tree.

PYRUS Malus

Wild Apple, or Crab-tree.

1802 ANDRIA, Portugal.

GER. CHAR. Cor. 5-lobed. Petals 5. Apple inferior, with 5 cells, and several seeds.

SPEC. CHAR. Leaves serrated. Flowers in a sessile umbel.

874. PYRUS Malus. Linn. Sp. Pl. 636. Webb. Fl.

Mal. 216. Webb. Bot. Afr. 517. Kalm. Canad. 191.

Malus sylvestris. R. & A. 452.

THE common crab-tree of all our valuable varieties of apples grows wild in a rough or very natural grove or thicket, but is it not frequent in hedgerows. When about the end of May it is covered with bloom, few if any shrubs surpass the crab in beauty. Its elegant rose colour bears a greater proportion to the white than in any cultivated variety, except the codling.

The tree is of a moderate size, distinguishable from our best trees, which without leaves, by its very irregular branches, and particularly its short, knobby, and rugged bearing shoots, from which along the leaves and flowers are produced. The leaves are roundish, or oval, their margins are serrated, sometimes by cultivation, but not so completely as in the pear-tree. The flower-stalks form a dense terminal mass, and are rarely subdivided. They are mostly covered with soft down, as is the inside (and sometimes the outside) of the calyx: Fruit small, hard, and very acid, yellowish green with a tinge of red.

The wood is hard, with a fine grain. The seed is small, fruit called cydonia, is difficult to cut, green and scaly.

See Dr. Withering's concise and full account of the uses of this and the pear-tree.

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BRYUM rigidum.

Rigid Bryum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* with a lid. *Veil* smooth. *Flower-stalk* from a terminal tubercle.

SPEC. CHAR. Stem scarcely any. Capsules cylindrical, erect, bordered with twisted ciliæ. Veil longer than the capsule. Leaves spreading, lanceolate, involute, rigid.

SYN. *Bryum rigidum*. *Huds. Fl. An.* 477. *Witb. Bot. Arr.* 105. *Smith's Tour on the Continent*, vol. i. 191.

B. acaulon, *Ericæ tenuifoliæ Gerardi folio*. *Dill. Musc.* 388. t. 49. f. 55.

Barbula rigida. *Hedwig. Musc.* vol. i. 65. t. 25.

DR. Smith, we believe, first found this moss, since the time of Dillenius, in November 1780, on a clay bank on the right-hand side of the Yarmouth road, two miles and an half from Norwich, where he also gathered the present specimen in January last. Mr. T. F. Forster has observed it in a chalk-pit on Banstead downs.

Its first appearance is very like the common *Bryum murale*, but the leaves of that have a strong mid-rib, which this wants, and are paler and thin at the margin, nor are they ever involute. By drying the points of the leaves are curved inwards. The stalks are longer, and the capsules larger than in *B. murale*. The veil very long, covering the whole young capsule, but soon falling off. Lid of the capsule red at the base. The fringe of the orifice consists of numerous hairs or teeth, which Hedwig found to be 32 in number. They are twisted into a cylinder.

How much soever we may admire the accuracy of observation, and physiological acuteness of the celebrated author last mentioned, we think the characters of his genera rather too minute and artificial. At least we beg leave to retain for the present those of Linnæus, though very imperfect, till repeated observations enable us to judge more correctly upon so abstruse a subject.

BRYUM rigidum.

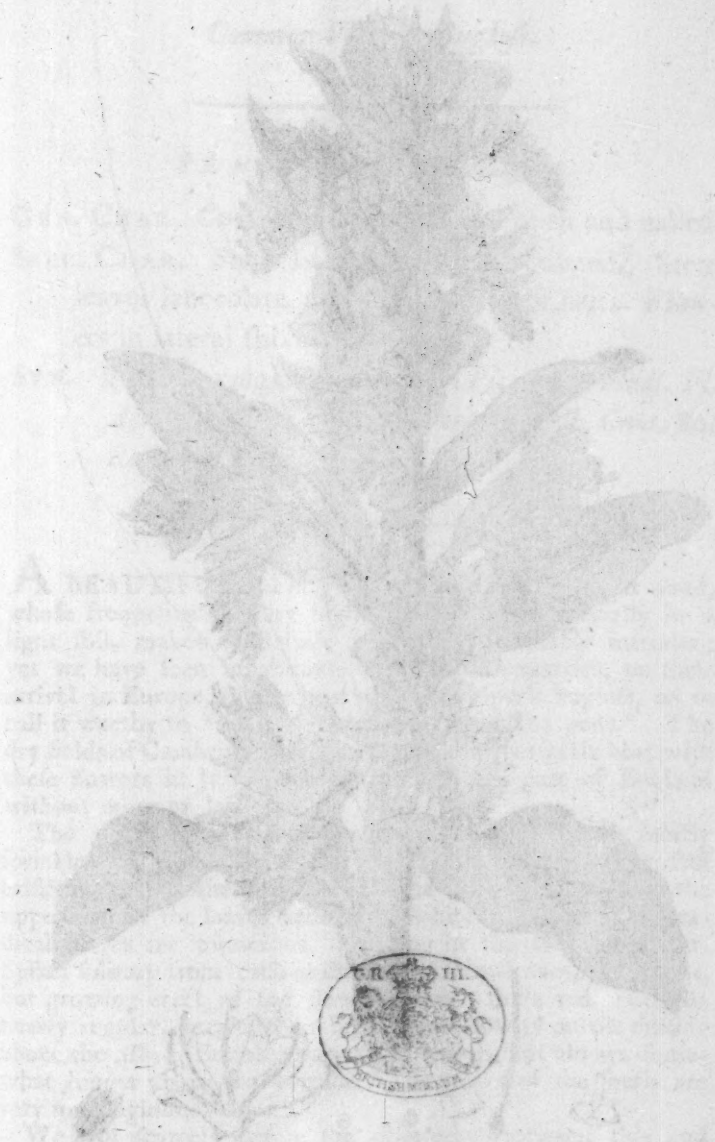
Rigid Bryum.

CRYPTOGAMA. Moss.

- GREEN CHAIR. Capsules with a lid. Low smooth. Flowers
 back from a terminal tubercle.
 GREEN CHAIR. Stem scarcely any. Capsules cylindrical-
 cal, erect, beak with twisted calyx. Vein
 longer than the capsule. Leaves spreading, lan-
 ceolate, involute, rigid.
 ST. BRYUM rigidum. Hall. Fl. Am. 477. White.
 Bar. Mr. 105. Smith's Farm on Bee Continent.
 1851. 105.
 B. aculeatum, Frisch. renchobolus Gerardi folio. 1851.
 May 388. 1. 49. 7. 22.
 Barbulis rigida. Frisch. May 105. 1. 62. 1. 23.

Dr. Smith, we believe, first found this moss, since the
 time of Dillwyn in November 1780, on a clay bank on the
 right-hand side of the Yarmouth road, two miles and an half
 from Norwich, where he also gathered the present specimen
 in January last. Mr. T. F. Foster has observed it in a
 clump of grass-land below.
 Its first appearance is very like the common Bryum minutum,
 but the plants of this have a flatter and the which this wants
 and are more and less at the bottom, not so the leaves or involucre
 by lying the points of the leaves are turned inward. The flaps
 are longer, and the capsules larger than in B. minutum. The
 very young, covering the whole young capsule, but soon
 falling off. Lid of the capsule red at the base. The fringe of
 the outer coat of numerous hairs or teeth, which I have
 found to be 32 in number. They are twisted into a cylinder.
 How much lower we may admit the accuracy of observation,
 and physical accounts of the established author last men-
 tioned, we think the characters of his genera rather too minute
 and artificial. At least we beg leave to retain for the present
 state of knowledge, though very imperfect, till repeated obser-
 vations enable us to judge more correctly upon to attribute a
 species.

ECHINUM



A RECENTLY discovered species of cactus, growing in the mountains of California. It is characterized by its large, pointed leaves and its solitary, upright habit. The plant is found in the same localities as the other species of the genus, and is distinguished by its larger size and its more robust growth. The fruit is a large, globose, and somewhat flattened berry, which is covered with a thick, warty, and often spiny skin. The interior of the fruit is soft and pulpy, and contains a large number of small, round seeds. The plant is a valuable source of food for the Indians, who use the fruit and the leaves for various purposes. It is also a popular ornamental plant, and is cultivated in many gardens and parks.



J. L. Del. Jan. 1 1794

ECHIUM vulgare.

Common Viper's Bugloss.

PENTANDRIA Monogynia.

GEN. CHAR. Cor. irregular, its orifice open and naked.

SPEC. CHAR. Stem bristly and tuberculated. Stem leaves lanceolate, and rough with stiff hairs. Flowers in lateral spikes.

SYN. *Echium vulgare.* Linn. *Sp. Pl.* 200. *Huds. Fl. An.* 83. *With. Bot. Arr.* 200. *Relb. Cant.* 80. *Raii Syn.* 227.

A BEAUTIFUL and magnificent, though very vulgar weed, whose frequency in every high-way and field, especially in a light soil, makes us despise it as an unprofitable intruder; yet we have seen inhabitants of tropical countries, on their arrival in Europe, so charmed with the viper's bugloss, as to call it worthy to "decorate the gardens of the gods." The dry fields of Cambridgeshire and Norfolk are perfectly blue with these flowers in June and July, nor is any part of England without more or less of them.

The root is biennial. Stem strong, erect, round, mostly sprinkled with red tubercles bearing some of the very stiff bristles which clothe every part of the herb, and which on the upper side of the leaves arise from white callosities. The radical leaves are numerous, spreading in the form of a star. Spikes solitary from each axilla of the stem-leaves, pendulous, but growing erect as the flowers open. Buds red. Corolla nearly regular, purple, then bright blue, downy on the outside about the ribs. Stamina varying in length, but always somewhat longer than the corolla. The juices of the herb are very mucilaginous.

We can scarcely define the difference between this and *E. italicum* (for in this case the Linnæan characters unfortunately teach nothing), except that the stalk of the latter seems not to be tuberculated, and the flowers are not half so large as in *E. vulgare*.

ECHINUM vulgare.

Common Violet & Bugloss.

PENTANDRIA. Monogamia.

GEN. CHAR. Cor. tubular, 5-lobed, open and naked.
SPEC. CHAR. Stem briefly and abundantly branched. Stem
leaves lanceolate, and rough with short hairs. Flow-
ers in terminal spikes.
SYN. Echinum vulgare. Linn. Sp. Pl. 1000. Hall. Fl.
Fr. 82. W. Bot. Mag. 1825. Carr. 80.
Ran. 1825.

A BEAUTIFUL plant, and one of the most common weeds
whose frequency is very remarkable, and especially in a
light soil, makes a large part of the vegetable inunda-
tion. It is very common in the low countries, on their
yet we have seen it in the mountains of the Alps, as to
arrival in Europe, it is supposed to have been introduced
call it worthy to be mentioned in the history of the
dry fields of Germany, and it is particularly common with
these flowers in June and July, and is one of the plants
without more of its kind.
The root is small, and is a little, erect, round, mostly
sprinkled with white, and is very tender, and the very first
plants which are seen in the spring, and which on the
upper side of the leaves are small, and are very tender.
The leaves are numerous, and are in the form of a fan,
spikes follow from each axilla, and the leaves are
but growing erect as the flowers grow, and the
nearly regular, and they are very small, and are on the outside
about the apex, and are very small, and are always some-
what longer than the others. The leaves of the herb are
very much like those of the Ranunculus.
We can scarcely define the difference between this and
E. testinum (for in this case the leaves are smaller, and are
nearly each nothing), except that the leaf of the latter seems
not to be tubercled, and the flowers are not like in large as
in E. vulgare.

LEPIDODERMIS

Dischidia peltata

Dischidia peltata

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T



LEPIDIUM latifolium.

Broad-leaved Pepper-wort.

TETRADYNAMIA Siliculosa.

GEN. CHAR. *Pouch* notched, with many seeds: valves keeled, but not margined: partition contrary to the valves.

SPEC. CHAR. Leaves ovato-lanceolate, undivided, ferrated.

SYN. *Lepidium latifolium*. *Linn. Sp. Pl.* 899. *Huds. Fl. An.* 279. *With. Bot. Arr.* 671. *Raii Syn.* 304.

GATHERED wild at Heybridge, near Maldon in Essex, by Mr. Edward Forster, jun. in the place mentioned by Ray. It has been found in other parts of Essex, always in wet shady situations, and the late Mr. Humphrey discovered it below Sheringham cliffs in Norfolk. Otherwise it is by no means common.

Root perennial, long, branching, and spreading very far. Stems erect, alternately branched, leafy, round, smooth, panicled at the top with numerous branches of small whitish flowers in little corymbi, appearing in July. The leaves are alternate, acute, of a broad lanceolate figure, lengthened out at the base and the tip, ferrated in the middle, glaucous, especially beneath. Their taste is biting and disagreeable. An infusion is said by Dr. Withering to be emetic.

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THE HISTORY OF THE CITY OF LONDON

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Salix tetralix Vence 1796

SALIX repens.
Creeping dwarf Willow.

DIOECIA Diandria.

GEN. CHAR. Male, *Cal.* the scales of a catkin, *Cor.* none. *Nectary*, a gland at the base of the stamina. Female, *Cal.* like the male. *Cor.* none. *Style* cloven. *Caps.* of one cell, with two valves. *Seeds* downy.

SPEC. CHAR. Leaves entire, lanceolate, somewhat downy on both sides. Stem decumbent and creeping. Style simple; stigma in 4 nearly equal segments. Capsules smooth.

SYN. *Salix repens.* Linn. *Sp. Pl.* 1447. *Huds. Fl. An.* 428. *Witb. Bot. Arr.* 1105. *Relb. Cant.* 366.

S. pumila angustifolia, inferne lanuginosa, and *S. pumila angustifolia prona parte cinerea.* *Raii Syn.* 447. Also *S. alpina pumila*, *rotundifolia repens*, inferne subcinerea. *Ibid.* 448.

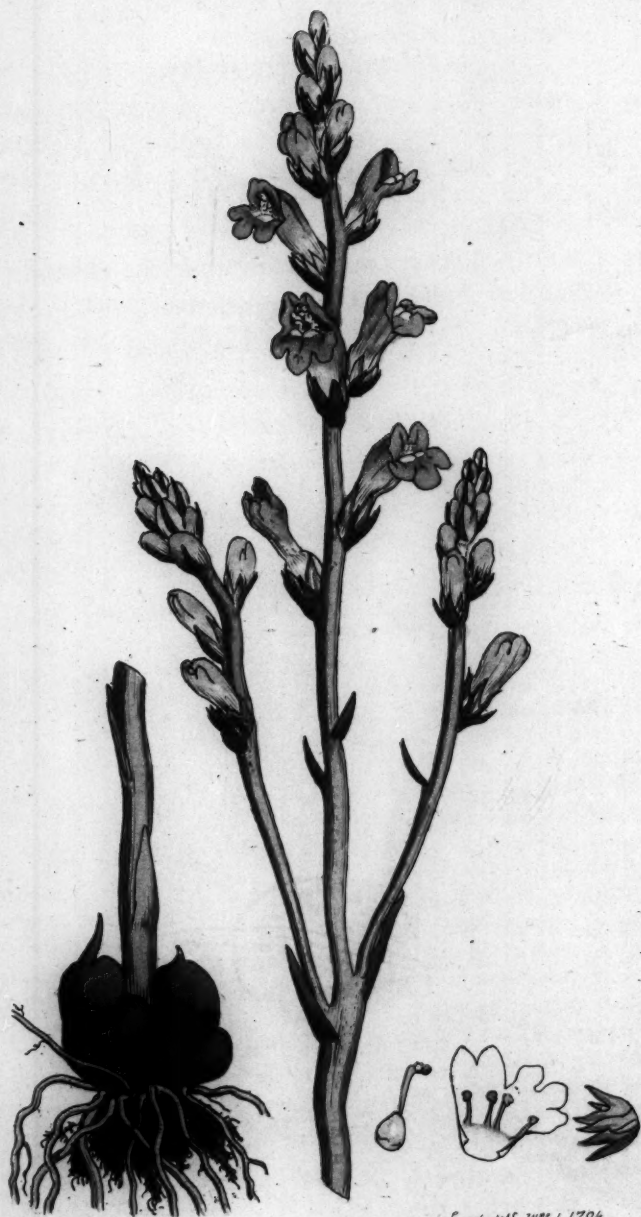
EVERY moist sandy heath abounds with this willow, which flowers in May, and ripens its fruit in June and July, when, as in most of this genus, the leaves arrive at their full size. The varieties of *S. repens* are numerous, differing in the breadth of their leaves, and in the greener or browner colour of the whole plant; hence Hudson and others have thought they had discovered *S. fusca* and *S. rosmarinifolia* among them; whereas the former is *S. arenaria* of our British writers (not of Linnæus), and the latter we have never seen of British growth. Professor Gouan of Montpellier mistook a widely different and non-descript species for *S. repens* of Linnæus.

The real one here figured has a very strong woody root, dark, brown or black, throwing out many prostrate or widely spreading stems, of which the flowering branches are generally erect. The leaves are lanceolate or elliptical, silky when young, and seldom quite smooth beneath when old; without stipulæ. Catkins not long; scales obtuse, hairy. Germen oval, silky, with a short undivided style, and a yellow spreading stigma, cloven almost equally into 4 lobes. Ripe capsule, smooth, lanceolate. The style and stigma must be particularly noticed in discriminating some of these small willows; indeed we stand in need of every help in so difficult a tribe.

SALIX repens.
Creeping dwarf Willow.

Gen. CHAR. Will. the leaves of a willow. Cor.
nearly round, the base of the filament.
Female Cal. the perianth. Cor. round, 2-lobed.
Stamen. Cal. the perianth. Cor. round, 2-lobed.
Spec. CHAR. Leaves entire, lanceolate, beneath
downy on both sides. Stem decumbent and
creeping. Style simple, 2-lobed in a nearly
equal segment. Capsule smooth.
Syn. Salix repens, Linn. Sp. Pl. 104. (Will. V.)
Will. V. 104. (Will. V. 104. (Will. V. 104.)
2. Leaves sagittate, notched at the base, and 2-
lobed. Style simple, 2-lobed in a nearly
equal segment. Capsule smooth. (Will. V. 104.)
3. Leaves sagittate, notched at the base, and 2-
lobed. Style simple, 2-lobed in a nearly
equal segment. Capsule smooth. (Will. V. 104.)

EVERY most easily distinguished by the yellow, which
flowers in May, and which is bright in the autumn, when, as
in most of the genus, the leaves are in their full size. I be-
lieve that the leaves are sometimes, when in the bud, of
their leaves, and in the autumn, when in the bud, of
plant; hence, I believe, and others have thought, that had this
covered, I believe, and others have thought, that had this
the former is a specimen of our British willow, or of Linnæus,
and the latter we have never seen in British woods. I believe
Gouan of Montpellier mistook it with Linnæus, and now
describe it for S. repens in Linnæus.
The real one here figured has a very good woody root, thick
brown or black, branching out many branches of which I have
my stems, of which this is a specimen, and which are generally
I believe are Linnæus in his Sp. Pl. 104. (Will. V. 104.)
Linnæus quite smooth beneath, and which are generally
Linnæus not being smooth beneath, and which are generally
with a flower, and which are generally, and which are generally
cloved, and which are generally, and which are generally
hand. The style and stigma may be particularly noticed
in distinguishing some of these small willows; indeed we
find in need of every help in its difficult task.



J. S. Smith del. June 1, 1794

OROBANCHE ramosa,

Branched Broom-rape.

DIDYNAMIA Angiospermia.

GEN. CHAR. *Cal.* 2-lipped. *Cor.* ringent. *Caps.* of one cell, with two valves, and many seeds. A gland at the base of the germen beneath.

SPEC. CHAR. Stem generally branched. Corolla with five segments.

SYN. *Orobanche ramosa.* *Linn. Sp. Pl.* 882. *Huds. Fl. An.* 266. *Witb. Bot. Arr.* 658. *Raii Syn.** 288.

MR. WOODWARD, who has so admirably illustrated this rare plant in the *Bot. Arr.* and who is one of the few people who have found it since Ray's time, was so obliging as to send us this recent wild specimen from a field at Mettingham in Suffolk, in which neighbourhood it grows plentifully, attached to the roots of hemp in a parasitical manner, and flowers in August.

The root is annual, a solid bulb, throwing out fleshy fibres which are entwined with those of the plant on which it grows. Stem erect, more or less obscurely zigzag, and never quite straight, clothed with a few scattered brown scales, and almost always branched, sometimes very copiously so. Spikes a continuation of the stem and branches, set with numerous sessile flowers, in an alternate order, with a brown concave bractea at the base of each. Calyx with 4 teeth, the 2 uppermost very distant; it can hardly be called two-lipped. The 2 upper segments of the corolla are rather the shortest.

We are by no means convinced that the *Orobanche flore minore* of Ray's Synopsis is a variety of this, but are rather inclined to refer it to *O. major*, if it be not a non-descript species. Neither are we certain that Mr. Pitchford's specimen from Northreps is the same with either. A sketch made from it when recent agrees better with *O. purpurea* of Jacquin (not Linnæus). The whole genus wants a thorough investigation.

OROBANCHE. Lamola.

Branches Broom-rape.

1914

one cell with two lobes and many feeds. A

gland at the base of the parotid duct.

Spec. Chan. Stem green, the branched. Corolla with

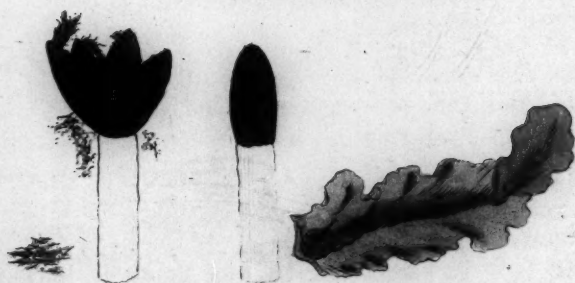
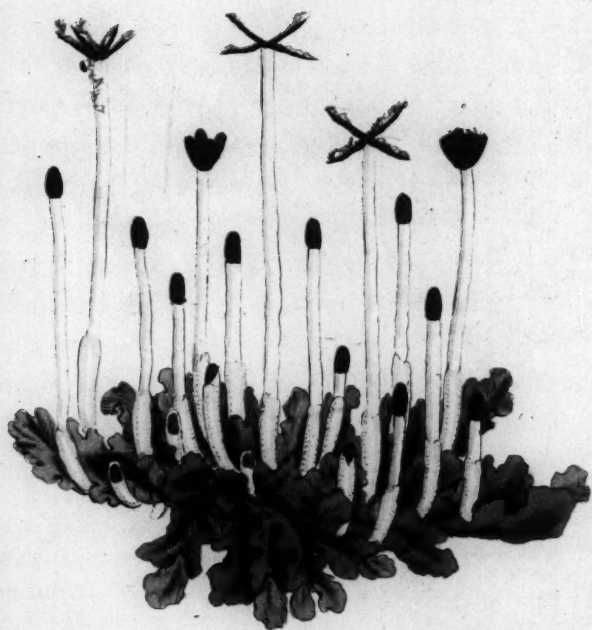
PLATE 1. The same as Plate 2, but with the same scale as Plate 2.

MR. WOODWARD, who has so admirably illustrated this rare plant in the *Bac. Rev.*, and who is one of the few people who have found it since Kny's time, was (according as to find as the reason will be seen from a field at Monticuma in Subak, in which near hundred of groves plentifully, attached to the roots of trees in a peculiar manner, and flowers in April.

The root is marked a little, showing cartilaginous fibres which are entwined with those of the plant on which it grows. Stem erect, more or less densely hairy, and never quite straight, clothed with a few scattered brown hairs and almost always branched, sometimes very copiously so. Besides a continuation of the stem and branches, its with numerous leafless flowers in an axillary cyme, with a green cartilaginous bract at the base of each. Calyx with a tooth, the uppermost very distinct; it can hardly be called two-lobed. The upper segment of the corolla is rather the throat.

We are by no means convinced that the genus *Notropis* is a variety of *Hyphessantrichus* as is rather inclined to refer it to *O. maculatus*. It is certainly a new description. Neither are we certain that *O. bimaculatus* is distinct from *Notropis* as the same with either. A sketch made from it when recent species with *O. purpuratus* of *Hyphessantrichus* (not *Notropis*). The whole genus wants a thorough revision.





JUNGERMANNIA pinguis.
Slippery Jungermannia.

CRYPTOGAMIA Alga.

GEN. CHAR. Male flowers sessile. (Hedwig.)

Female on a footstalk rising from a sheath. Capsule with 4 valves. Seeds attached to elastic filaments.

SPEC. CHAR. Stem none. Frond oblong, sinuated, slippery.

SYN. Jungermannia pinguis. *Linn. Sp. Pl.* 1602. *Huds. Fl. An.* 517. *Witb. Bot. Arr. V. 3.* 156. *Relb. Cant.* 420.

Lichenastrum capitulis oblongis juxta foliorum divifuras enascentibus. Raii Syn. 110. *Dill. Musc.* 509. *t.* 74. *f.* 42.

FOUND in boggy, marshy places, commonly producing its ripe capsules in April; this forward season (1794), it has been somewhat earlier. When very luxuriant, it grows erect in thick tufts, and does not flower; otherwise the fronds are horizontal, attached to the moist earth by hair-like fibres, and of a very wet, slimy, slippery substance, tender like boiled vegetables. From the incisions of the frond arise solitary tubular sheaths, each producing an upright simple pellucid stalk, terminated by a black oval capsule, called *anthera* by Linnæus, which bursts at the top into 4 valves, and is full of black elastic fibres, connected with numerous seeds.

We beg leave to point out an inaccuracy in the character of this genus in the *Bot. Arr.* as taken from Linnæus. It should be *Fruit-stalk bearing a naked flower*, that is, destitute of *calyx* and *corolla*. The Linnæan word *Anthera* is indeed properly changed for *Capsule*; but, by a strange oversight, the description of the real male flower is continued as if it were the female.

[182]

JUNGERMANNIA pinguis

Shipley Jungermannia

CRYPTOGAMA

GEN. CHAR. Male flowers sessile. (Herwig.)

Female on a footstalk rising from a slender capsule with 4 valves. Setae attached to elastic filaments.

SPEC. CHAR. Stem none. Rhizome oblong, branched, slippery.

STY. Jungermannia pinguis. L. 1802. Hb. K. 1802. Rab. 1802. Rab. 1802.

Can. 1802.

Lichenographia capitata oblonga, siliqua foliorum breviter emarginata. Rab. 1802. Dill.

Male 1802.

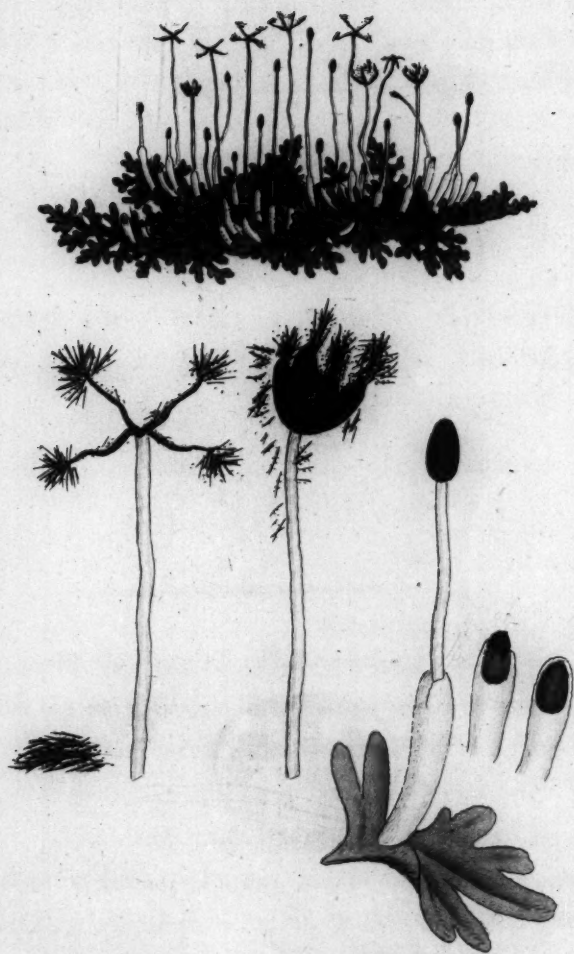
FOUND in boggy places, and commonly producing its capsules in April; this is the season when it has been hitherto earliest. When very luxuriant it grows erect in thick tufts, and does not flower; when the fronds are horizontal, attached to the mossy carpet by hair-like filaments, and of a very wet, slimy, slippery substance, it is the so-called reptant. From the incisions of the stem and branches numerous blackish, ceph. producing an upright, single, branched stalk, terminated by a black oval capsule, called valves by Linnaeus, which bursts at the apex into a tetrahedron, and is full of black elastic filaments, connected with numerous setae.

We here leave to point out an inconsistency in the character of this genus in the Bot. Bot. in which from Linnaeus. It should be pointed out that having a naked flower, that is, destitute of calyx and corolla. The Linnaean word *capitulum* is indeed properly changed for *capsula*, but, by a strange oversight, the description of the real male flower is continued as if it were the female.

JUNCKERMANNIA

Marshall Islands





JUNGERMANNIA multifida.

Many-lobed Jungermannia.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male flowers sessile.

Female on a footstalk rising from a sheath. Capsule with 4 valves. Seeds attached to elastic filaments.

SPEC. CHAR. Stem none. Frond bipinnatifid.

SYN. Jungermannia multifida. *Linn. Sp. Pl.* 1602.

Huds. Fl. An. 517. *Witb. Bot. Arr. V.* 3. 155.

Lichenastrum Ambrosiæ divisura. Raii Syn. 111.

Dill. Musc. 511. t. 74. f. 43.

THIS was gathered on Epping Forest, by Mr. E. Forster. It loves a moist shady situation like *J. pinguis*, but is not near so common. It flowers about the same time.

The fronds grow prostrate, and are cut into many obtuse irregular segments in a bipinnate order, their surface somewhat slimy to the touch. From towards their base arise solitary flower-stalks, clothed at the bottom with a white sheath, and terminating in a dark brown capsule, which quickly scatters its seeds, retaining at the last a few fibres sticking to the extremity of its expanded withered valves, as in other species.

JUNGERMANNIA molibda.

Many lobed Jungermannia.

JUNGERMANNIA

GEN. CHAR. Male flowers sessile. Female on a stalk arising from a stipe. Capsule with 4 valves. Seeds attached to elastic filaments.

SPEC. CHAR. Stem none. Frond bipinnatifid.

SYN. Jungermannia molibda. Linn. Sp. Pl. 1602.

Hed. Fl. Linn. Sp. Pl. 1602. N. 3. 155.

Lichen from Amphibia. Kuhn. Syn. 111.

Dill. Musc. 211. 1. 74. 1. 45.

THIS was gathered on Epping Forest, by Mr. E. Forster. It loves a moist shady situation like *J. pinguis*, but is not near so common. It flowers about the same time. The fronds grow prostrate, and are cut into many oblong irregular segments in a pinnate order, their bases somewhat firm to the centre. From towards the base arise solitary flower-stalks, clothed at the bottom with a white sheath, and terminating in a dark brown capsule, which quickly bursts its seeds, retaining at the last a few fibres sticking to the extremity of its expanded withered valves, as in other species.

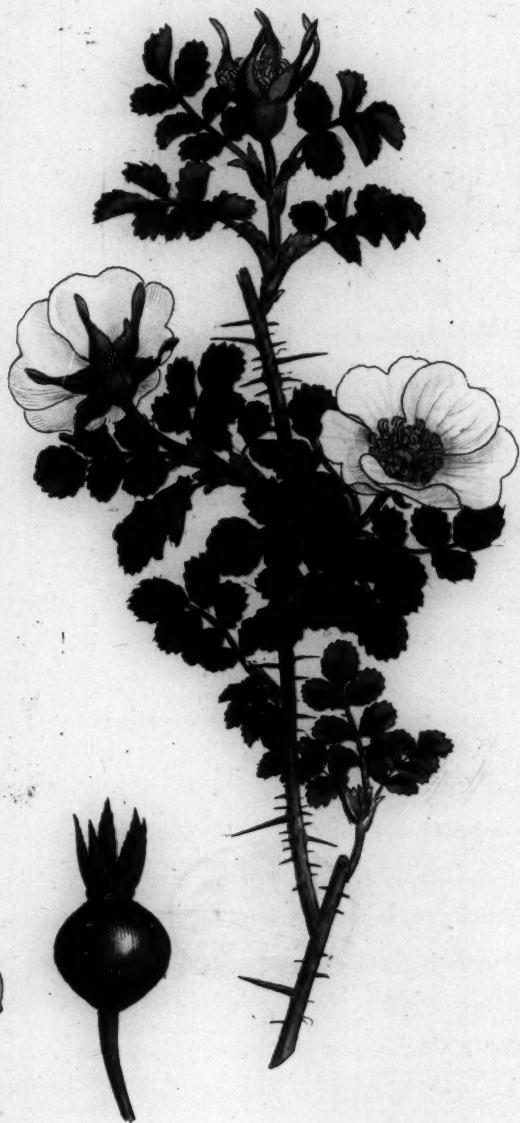
19

THE HISTORY OF THE
CITY OF LONDON
FROM THE FOUNDATION
TO THE PRESENT TIME
BY JOHN STOW
1618



THE HISTORY OF THE
CITY OF LONDON
FROM THE FOUNDATION
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1618





ROSA spinosissima.

*Burnet Rose.**ICOSANDRIA Polygynia.*

GEN. CHAR. *Cal.* urn-shaped, fleshy, contracted at the orifice, terminating in 5 segments. Petals 5. Seeds several, bristly, fixed to the inside of the calyx.

SPEC. CHAR. Fruit globose, smooth as well as the flower-stalks. Stem clothed with very numerous straight slender spines. Leaflets smooth and round.

SYN. *Rosa spinosissima.* *Linn. Sp. Pl.* 705. *Huds. Fl. An.* 218. *With. Bot. Arr.* 522. *Lightf. Fl. Sc.* 260. *Fl. Dan. t.* 398.

R. pimpinellifolia. *Linn. Syst. Nat. ed.* 10. 1062.

R. pumila spinosissima, foliis Pimpinellæ glabris, flore albo. *Raii Syn.* 455.

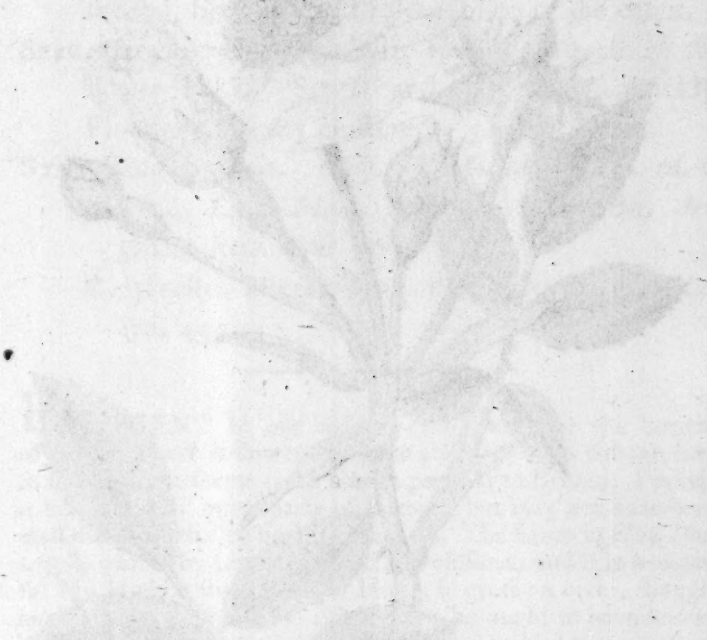
ROSES, the delight of gardeners, of poets, in short of all who have ever considered any plant as an object of admiration, and which compose perhaps the most elegant genus on the whole that we know, are by no means easily intelligible to a botanist. Their beautiful forms, so delicately varied, are yet so nearly allied, that the line of specific discrimination can scarcely be accurately drawn. This species, indeed, is one of the most distinct; yet even this has been described twice by our great master. It appears from his herbarium, that his *R. pimpinellifolia* is exactly (as Haller believed) the same plant, not even a variety, as his original *spinosissima*; of which, not happening to have it before him when he wrote the 10th edition of *Syst. Nature*, he forgot the appearance.

It occurs with us in the borders of fields on a gravelly or sandy soil, flowering in July. The bushes are about 2 feet high, much branched, and may be known by the very numerous needle-like prickles, abundant on the young branches, but which often disappear from the old ones. The leaflets are about 9, round, smooth, serrated, very like the leaves of burnet (*Poterium Sanguisorba*); their common stalk is sometimes prickly, and the flower-stalk more rarely so. Petals cream-coloured, yellow at the base, delicately fragrant, sometimes (but rarely) striped with red. Fruit globose, deep red, black when quite ripe, smooth, though Haller describes it as spinous.

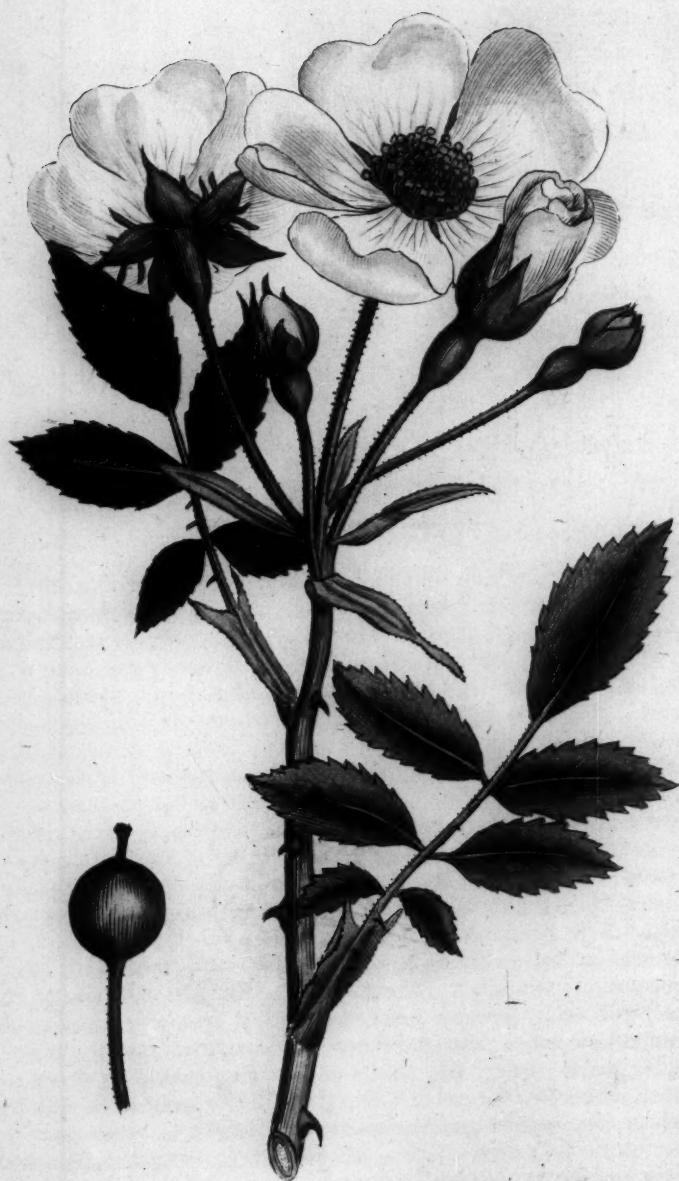
Fl. Dan. t. 398. is this plant, and not *R. arvensis*.

ROSE, *Rosa*
1872-1873

1. *Rosa* *canadensis* Michx.
2. *Rosa* *pratincola* L.



3. *Rosa* *rugosa* Thunb.
4. *Rosa* *sp.* *sp.*
5. *Rosa* *sp.* *sp.*
6. *Rosa* *sp.* *sp.*
7. *Rosa* *sp.* *sp.*
8. *Rosa* *sp.* *sp.*
9. *Rosa* *sp.* *sp.*
10. *Rosa* *sp.* *sp.*



R O S A arvensis.

*White Dog-rose.**ICOSANDRIA Polygynia.*

GEN. CHAR. *Cal.* urn-shaped, fleshy, contracted at the orifice, terminating in 5 segments. *Petals* 5. *Seeds* several, bristly, fixed to the inside of the calyx.

SPEC. CHAR. Fruit globose, smooth as well as the flower-stalks. Stem and leaf-stalks prickly. Flowers generally clustered.

SYN. *Rosa arvensis.* *Huds. Fl. An. ed. 1. 192. ed. 2. 219. Linn. Mant. 2. 245. With. Bot. Arr. 521. Relb. Cant. 193.*

R. sylvestris altera minor, flore albo nostras. Raii Syn. 455.

FREQUENT in our hedges, and thickets in the borders of fields, where it flowers in June and July; yet though here so common, it seems to be almost peculiar to Britain. Perhaps it may grow in other parts of Europe, but may not have been well discriminated by botanical writers. The figure in *Flora Dan.* t. 398, quoted by Linnæus, is *R. spinosissima*; and it is wonderful Mr. Hudson should follow him in so gross an error, though, having himself established this species, he ought to have known it well. We beg leave on this occasion to hint a general admonition against copying synonyms without examining them.

Rosa arvensis has round, glaucous, often mahogany-coloured stems, of which last colour are commonly the germens and flower-stalks; and the last are covered with a glandular roughness. The prickles are hooked, but differ from those of *R. canina* in being smaller. The leaflets are mostly 5, oval, pointed and smooth. Flower-stalks about 3 or 5 in a terminal cluster (rarely solitary), not all exactly from one point, accompanied by a few lanceolate bractæ, and each bearing a single white flower, like the common dog-rose, but never red or bluish-coloured, and less fragrant. The germen is oblong, but in ripening becomes globose, and deep-red, terminated by the simple base of the styles, at that period elongated, as is well remarked by Dr. Stokes in *Bot. Arr. 522.*

[183]

ROSA arvensis.
White Dog-rose.

TOSSANDRIA p. 105.

Gen. Char. Cal. imbricated, fleshy, contracted at the
 orifice, surrounding the stamens; lobes 5, green,
 several, deeply, thick to the base of the calyx.
 Petal. Green, single, lobes 5, as well as the
 flower stalk. Stem and leaflets thickly
 flower generally clustered.
 Stem. Rose arvensis, L. f. p. 105. ad a.
 183. 184. 185. 186. 187. 188. 189. 190.
 191. 192. 193. 194. 195. 196. 197. 198. 199. 200.
 R. arvensis, L. f. p. 105. ad a.
 183. 184. 185. 186. 187. 188. 189. 190.
 191. 192. 193. 194. 195. 196. 197. 198. 199. 200.

FREQUENT in our hedges, and thickets in the borders
 of fields, where it flowers in June and July; yet though here
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 it may grow in other parts of Europe, but may not have been
 well distinguished by botanical writers. The flower is 5-lobed,
 1 3/4", quoted by Linnaeus, is R. spinosissima; and it is wonder-
 ful Mr. Stedon should tell us him in to grow an error, though
 having ~~not~~ distinguished this species, he ought to have known
 it well. We may leave on this occasion to hint a general ad-
 monition against copying synonyms without examining them.
 Rosa styriaca, L. f. p. 105. ad a. 183. 184. 185. 186. 187. 188. 189. 190.
 191. 192. 193. 194. 195. 196. 197. 198. 199. 200.
 stems of which last colour are commonly the green and
 brown-stalks, and the last are covered with a glandular rough-
 ness. The prickles are hooked, but differ from those of R.
 canina in being smaller. The leaflets are mostly 5-ovate,
 pointed and smooth. Flower stalks about 2 or 3 in a terminal
 cluster (rarely solitary), not all exactly from one point, ac-
 companied by a few lanceolate bracts, and each bearing a
 single white flower, like the common dog-rose, but more red
 or bluish-tinged, and less fragrant. The germ is oblong,
 but in ripening becomes globose, and deep red, terminated by
 the single base of the styles, at that period elongated, as is well
 remarked by Dr. Stokes in his New gen.

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G. Lencorby del pulg. 1771

ARENARIA peploides.

Sea Chickweed.

DECANDRIA Trigynia.

GEN. CHAR. *Cal.* five-leaved, spreading. *Petals* five, undivided. *Caps.* of one cell, with many seeds.

SPEC. CHAR. Leaves ovate, acute, fleshy.

SYN. *Arenaria peploides.* *Linn. Sp. Pl.* 605. *Huds. Fl. An.* 191. *Witb. Bot. Arr.* 458.

Alfene marina, foliis Portulacæ. *Raii Syn.* 351.

PECULIAR to the sandy shores of the sea, but there found in abundance. Its juices partake of the alkaline nature of other succulent maritime plants.

The roots are stringy, creeping, and extend very far, throwing out fibres at every joint. Stem alternately branched, forming thick leafy procumbent tufts, angular, smooth and lucid, as is every part of the herb. Leaves sessile, ovate, entire, slightly recurved, of a beautiful bright green. Flowers on short footstalks, solitary at the divisions of the stem, small, white, and not very conspicuous. Calyx quite destitute of ribs. Germen with a row of yellowish glands round its base. Styles very short.

No other species of *Arenaria* can be confounded with this. It flowers about the middle of Summer, and is perennial.

ARENARIA populioides

See Chelidonium

DECAANDRIA 1. 2.

Gen. Char. Cal. five-lobed, the lobes rather
linear, undivided. Cor. of one cell with many
stamens.

Spec. Char. Leaves very small, linearly
obovate, pinnatifid. Lvs. in p. 605. Fls.

Alone margin. John P. ... 321

PECULIAR to the sandy shores of the sea, but here found
in abundance. Its juicy parts of the whole consist of other
luculent maritime plants.

The roots are thick, creeping, and extend very far, throw-
ing out fibres at every joint. Stem extremely branched, ter-
minating in thick leafy procumbent tufts, angling forward and inward
in every part of the herb. Leaves sessile, ovate, entire, linearly
recurved, of a beautiful bright green. Flowers on short pedicels
small, solitary at the divisions of the stem, linear, white, and very
very conspicuous. Calyx quite destitute of ribs. Germen with
a row of yellowish glands round its base. Styles very short.
No other species of Arenaria can be distinguished with this.
It flowers about the middle of January, and is perennial.

THE DUTCH

THE DUTCH

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J. Sowerby del. July 1. 1794.

TRIFOLIUM medium.

*Zigzag Trefoil.**DIADELPHIA Decandria.*

GEN. CHAR. *Flowers* more or less capitate. *Pod* scarcely longer than the calyx, never bursting, but falling off entire.

SPEC. CHAR. Spikes lax. Petals nearly equal. Stipulæ awl-shaped and conniving together. Stems zigzag and branching. *Afzelius.*

SYN. *Trifolium medium.* *Linn. Faun. Suec. ed. 2. p. 558. Hudf. Fl. An. ed. 1. 284. Afzelius Tr. of Linn. Soc. V. 1. 237.*

T. flexuosum. *Jacq. Fl. Austr. V. 4. tab. 386. Witb. Bot. Arr. 795.*

T. alpestre. *Hudf. Fl. An. ed. 2. 326.*

T. purpureum majus, foliis longioribus et angustioribus, floribus saturationibus. *Raii Syn. 328.*

AFTER the most elaborate and accurate dissertation of Mr. Afzelius above quoted, it would be vain to attempt any new observation upon this Trefoil, or the two other species which he has illustrated. This is found in dry elevated pastures, preferring a chalky soil, or a gravelly one with a clay bottom, and differs from *T. alpestre* (which is not a British plant) in having larger and more lax heads of flowers, broader and shorter leaves, a branched stem, stipulæ approaching each other, and ribbed; from *T. pratense*, Common Clover, it differs in its lax heads of flowers, longer and narrower stipulæ, and more unequal calyx: from both it is distinguished by its remarkably zigzag stem. The root is perennial, and the flowers appear in July.

This species is said not to be eligible for cultivation, as it does not thrive in a good loose soil; but Prof. Martyn justly remarks, (*Flora Rustica*, No. 5.) that it may therefore succeed on stubborn hungry clay, like its native places of growth.

TRIFOLIUM medium.

Nigra, Trifol.

Gen. Char. The flowers of this species are frequently longer than the calyx, or at leasting, but falling off early.
Spec. Char. Flowers lax, the petals nearly equal. Stems pubescent and branched, the leaves bipinnate, the siliques and branches pubescent.
Syn. Trifolium medium, Linn. Faun. Suec. ed. 2. p. 228. Trifol. Fl. da. ed. 1. 224. Alpinus Trif. 4. 227. Trifol. W. 1. 227.
T. medium, Jacq. Fl. Boiss. N. 4. tab. 386. W. 1. 227. Trifol. Fl. da. ed. 2. 228.
T. alpinum, Linn. Fl. da. ed. 2. 228.
T. purpureum, Linn. Fl. da. ed. 2. 228.

AFTER the most elaborate and accurate illustration of Mr. Alpinus above quoted, it would be vain to attempt any new observations upon this species, or the two other species which he has described. It is found in the elevated pastures, preferring a chalky soil, or a gravelly one with a clay bottom, and differs from T. alpinum (which is not a British plant) in being larger and more laxly branched, broader and shorter leaves, a branched stem, the flowers being smaller, and the siliques from T. pratense, Cuscuton Closter, it differs in its heads of flowers, longer and narrower siliques, and more upright habit: from both it is distinguished by its remarkably strong stem. The root is perennial, and the flowers appear in July.
This species is said not to be eligible for cultivation, as it does not thrive in a good look lot; but I do not mention justly remarks (see Ruffin, 1765) that it may be raised, as it is found in both hungry clay like its native places of growth.





J. Smoot del. July 1794.

BRYUM calcareum.

Chalk Bryum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsf.* with a lid. *Veil* smooth. *Flower-stalk* from a terminal tubercle.

SPEC. CHAR. Stem none. Capsules erect, obconical, bordered with sixteen ciliæ. Leaves erect, cylindrical, bluntish.

SYN. Bryum calcareum. *Dicks. Crypt. Fasc. II. 3. t. 4. f. 3. With. Bot. Arr. V. 3. 95. Relb. Cant. Suppl. III. 9.*

FOUND in great plenty at Dartford, May 24, 1794, covering the sides of the chalk-pit nearest the west end of the town. Each plant grows from a minute cavity in the chalk, which it seems to occupy for some time without flowering, during which early state it makes the chalk look as if clothed with bright green velvet. The plants are solitary; the roots small and fibrous, not creeping. Leaves 6 or 8, erect, broad and sheathing at the base, then narrow, cylindrical, obtuse, smooth and entire. Stalk scarcely exceeding the leaves in length, upright, round, green. Capsule erect, inversely conical, bordered with 16 lanceolate, equal, spreading teeth. Lid almost as long as the capsule, with a curved beak. Veil oblique, reaching about half way down the capsule.

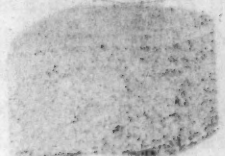
Mr. Dickson and Mr. Crowe first ascertained this minute species on chalky ground about Newmarket heath, and the former published it in his valuable work on the new Cryptogamous plants of Great Britain, a publication of the first merit for originality and solidity of observation, and which proves how much a consummate investigator may detect even on the most beaten ground.



1992

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100





J. Smith, 22 July 1794.

BYSSUS purpurea.

Purple Byffus.

CRYPTOGAMIA Algæ.

GEN. CHAR. Whole plant consisting of down or simple powder. *Frustrification* unknown.

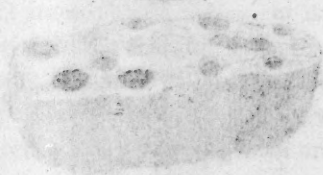
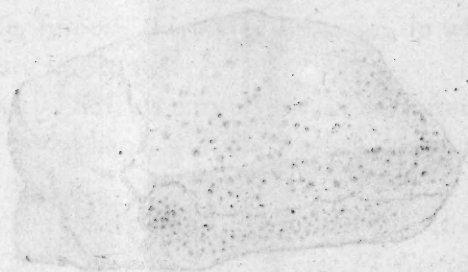
SPEC. CHAR. Filaments erect, simple or branched, purplish.

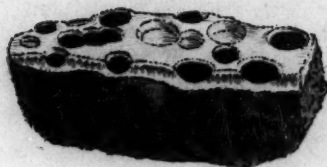
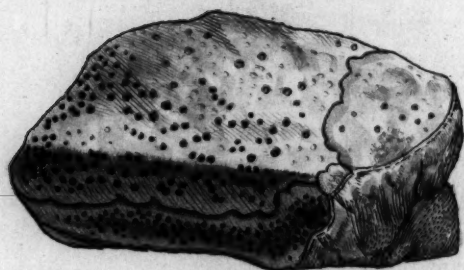
SYN. Byffus purpurea. *Lightf. Fl. Scot.* 1000. *With. Bot. Arr. V.* 3. 276.

B. rubra. *Hudf. Fl. An.* 605. *App.* 663.

WE are obliged for this elegant and curious production to the Rev. Mr. Hugh Davies of Aber in North Wales, from whom the late Mr. Hudson also received many of his rarest plants. It is found on the micaceous rocks of Anglesea, forming broad uniform patches of a dark reddish purple colour, and scarcely the breadth of a hair in thickness, so very short are the minute, erect, thick-set, and mostly branched, filaments of which it is composed. When much moistened these filaments become clotted together in clusters, and in that moist state it exhales a kind of sea-weed scent, more like the Florentine Iris root than violets, in which respect it agrees with the B. Iolithus of Linnæus; but the latter is really a crustaceous Lichen, and of a paler colour than this. How far Linnæus may have confounded them, or whether ours may be Micheli's *tab.* 89. *f.* 3. (it is surely not his *tab.* 90. *f.* 2.) we dare not determine. Ours cannot be called "*aurea*" (gold-coloured), neither is it at all crustaceous, but a true filamentous Byffus. We think with Haller the powdery Byffi are most probably Lichens.

Mr. Lightfoot found his B. purpurea on the base of Abbot Mackinnon's tomb in Y-Columb-kill, where a naturalist of our acquaintance has since sought for it in vain. Perhaps therefore his species may not be perennial. We quote Mr. Hudson on his own authority, though his name *rubra* is not very apposite.





LICHEN immerfus.

Sunk Lichen.

CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Shields entirely black, each sunk into a cavity in the hard, whitish, smooth crust, and deciduous.

SYN. Lichen immerfus. *With. Bot. Arr.* 169.
Relb. Cant. Suppl. I. 23. *Weber Fl. Goetting.* 188.
Smith's Tour, V. 1. 171. *Sibth. Oxon.* 318.

FOUND in Derbyshire and other counties at all seasons on calcareous rocks; we have not observed it on any other.

The crust is almost as hard as the stone on which it grows (though very distinct from it) half a line, or not so much, in thickness, nearly entire in the margin, greenish internally, its surface white, smooth, full of little hemispherical cavities of various sizes and depths, the bottom of each of which is occupied by a black depressed smooth shield, with an entire margin of a more intense black than the disk.

These shields in time fall out, leaving the almost everlasting crust full of cavities, which (if the edge of the specimen be cautiously pared away) may often be found to extend even into the very substance of the stone. See Dr. Smith's Tour above quoted. Micheli mentions, p. 97, several Lichens which bear their shields in cavities; his No. 21 and 22 best agree with ours, but not having seen his specimens we dare not positively quote him. We have not indeed seen Mr. Relhan's nor Dr. Sibthorp's *L. immerfus*, but there can scarcely be any doubt of theirs being the same with ours.

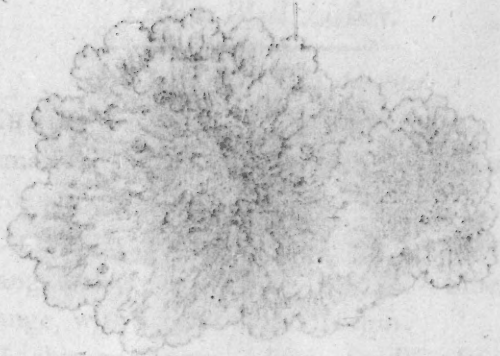
LICHEN immutabilis.

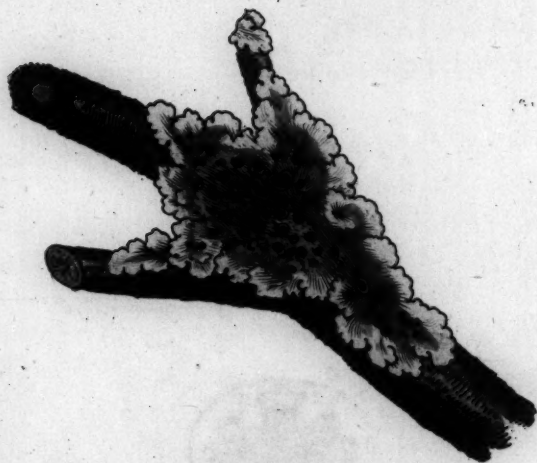
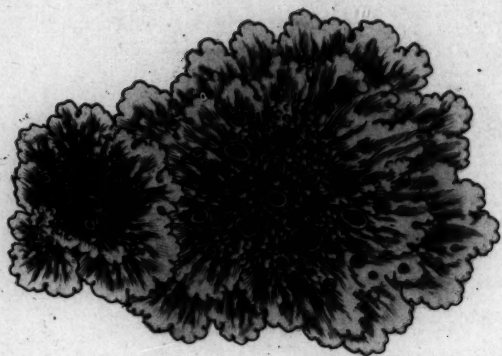
Small Lichen.

CRISTATUM, M. A. 1809.
GAY, CHAR. M. A. 1810.
Female, smooth, slender, in which the
leaves are imbedded.
GAY, CHAR. M. A. 1810.
cavity in the back, with a small
circular
Lichen, M. A. 1810.
Gay, Char. M. A. 1810.
Small, 1810, 1811, 1812, 1813.

FOUND in Derbyshire and other countries at all seasons on
calcareous rocks: we have not observed it on any other.
The crust is small as found on the rocks on which it grows
(though very lifting from the rock a little, or not so much, in
thickness, nearly constant in colour, but the intensity, as
before white, in the middle of the rock, and the edges of
various sizes and depths, the colour of the rock is seen
fixed by a black deposit, which is a true margin
of a pure incense black than the disk.
These fields in time fall out, leaving the almost everlasting
crust full of cavities, which at the edge of the specimen be
cautiously bored away) may often be found to extend even into
the very substance of the stone. See Dr. Smith's Treatise
on the Lichen, p. 97, several Lichens which bear
their fields in cavities, the No. 21 and 22 both agree with
ours, but not having seen his specimens we dare not positively
quote him. We have not indeed seen Mr. Reichenow's nor Dr.
Schimper's, I imagine, but there can scarcely be any doubt of
them being the same with ours.

LECHEN





J. Bonny del. Aug. 1794.

LICHEN parietinus.

Yellow Wall Lichen.

CRYPTOGAMIA *Algæ.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Imbricated. Leaves crisped, obtuse, orange-coloured, whitish beneath. Shields deep orange, with a paler entire margin.

SYN. Lichen parietinus. *Linn. Sp. Pl.* 1610. *Huds. Fl. An.* 533. *With. Bot. Arr. Vol.* 3. 186. *Relb. Cant.* 428. *Sibth. Oxon.* 326. *Lightf. Scot.* 822.

Lichenoides crusta foliosa scutellata, flavescens. Raii Syn. 72.

L. vulgare sinuosum; foliis et scutellis luteis. Dill. Musc. 180. *tab.* 24. *f.* 76.

β. Lichen juniperinus. *Huds. Fl. An.* 542. *With. Bot. Arr. V.* 3. 197. *Lightf. Scot.* 836.

THIS is common every where, and at all seasons, on walls, stones, trunks of trees, posts, &c. The more it is exposed to the sun, the deeper is its orange colour. Moisture and shade render it more lax, leafy, and of a greenish or pale olive hue. So it most commonly appears on trees and bushes. This we have marked as a variety (β) and it is the *L. juniperinus* of our British writers, though by no means that of Linnæus.

The under side is white, especially towards the centre, and adheres to bodies on which it grows by white fibres. The divisions of the frond are more or less imbricated, often wrinkled, and sometimes powdery. The shields numerous, their disk either deep orange or brownish. Lightfoot says this Lichen will dye yellow. Helwing formerly asserted that when moistened it would stain paper or linen of a beautiful and lasting flesh-colour, a property which Dillenius could not discover, and which we have looked for repeatedly in vain.

LICHEN: patellinus.

Yellow Wall Lichen.

Gen. CHAR. - Small, rounded, with
 Female, rounded, with
 seeds numerous.
 SPEC. CHAR. - Impure, Lichen, with
 orange-colored, with brown
 orange, with a greenish margin.
 SYN. Lichen patellinus. Linn. Sp. Pl. 1810. (Lich.)
 Fl. Am. 233. With. Bot. Am. Vol. 3. 188. Rab.
 Cam. 428. 2116. Oxen. 226. Light. 226. 227.
 Lichenoidea crusta foliata, crystallina, fruticosa. Rab.
 Syn. 72.
 I. vulgaris, monodon, Lich. 226. 227. 228. 229.
 Lichen patellinus. Lich. 226. 227. 228. 229.
 Lichen patellinus. Lich. 226. 227. 228. 229.

THIS is common everywhere, and at all seasons, on walls,
 stones, trees, &c. The more it is exposed to
 the sun, the more it is orange colour. Moisture and shade
 render it more green, less, and of a greenish or pale olive hue.
 So it most commonly appears on trees and bushes. This we
 have marked as a variety (B) and it is the L. patellinus of our
 British writers, though it is not the same as that of Linnæus.
 The under side is white, especially towards the centre, and
 adheres to bodies on which it grows by white fibres. The di-
 visions of the frond are more or less imbricated, often wrinkled,
 and sometimes powdery. The shields numerous, their dis-
 cuses deep orange or brownish. Lightfoot says this Lichen will
 dye yellow. Having formerly asserted that when moistened
 it would stain paper or linen of a beautiful and lasting yellow
 colour, a property which Dillwyn could not discover, and
 which we have looked for repeatedly in vain.





EUPHORBIA paralia.

Sea Spurge.

DODECANDRIA Trigynia.

GEN. CHAR. *Cor.* of three or four petals, standing on the calyx. *Cal.* of one leaf, inflated. *Caps.* three-lobed.

SPEC. CHAR. Umbel mostly five-branched, branches cloven. Partial flower-leaves heart-kidney-shaped. Leaves imbricated, erect.

SYN. Euphorbia Paralias. *Linn. Sp. Pl.* 657. *Huds. Fl. An.* 209. *With. Bot. Arr.* 496.

Tithymalus paralius. *Raii Syn.* 312.

ON the sandy shores of the sea in various parts of England. Mr. Lightfoot does not mention it as a native of Scotland.

The root is strong, woody, and perennial. Stems numerous, about a foot high, furnished near the base with several erect leafy branches, and terminated by a large spreading umbel of four to six rays, set with numerous *involucra* or flower-leaves, which vary in their form from a kidney to a heart-shape, and accompany small solitary flowers, with orange-coloured crescent-shaped petals. The herb is rendered conspicuous by its very glaucous colour, and its numerous imbricated leaves, concave above, and convex on their under side, which last is the only part visible as they grow. In plants so circumstanced no doubt the light acts on the *under* side of their leaves, though in most that part will not bear its influence.

This species flowers in August and September.

EUPHORBIA parviflora

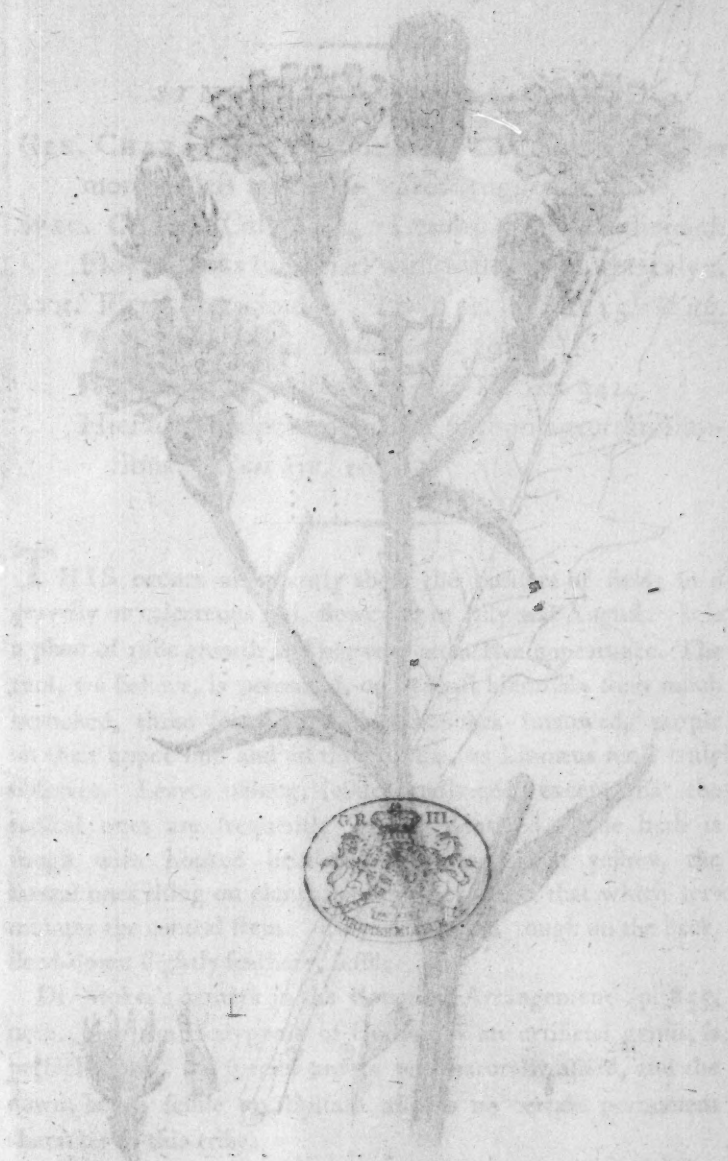
Gen. Sp. 200

Gen. Char. The calyx is of four petals, standing on
the calyx, and one leaf, imbricated. Caps.
imbricated.
Spec. Char. Branches much branched, branches
cloven. Petal flower leaves heart-shaped.
Leaves imbricated, cord.
Euphorbia parviflora, Linn. Sp. Pl. 622. Herb. Fr.
As 200. W. 200. 200. 200.
Euphorbia parviflora, Linn. Sp. Pl. 622.

○ In the sandy borders of the sea in various parts of England.
Mr. Lightfoot has not mentioned it as a native of Scotland.
The root is thick, woody, and perennial. Stems numerous,
about a foot high, branching at the base with several erect
leafy branches, and supported by a large spreading umbel of
root to six rays, set with numerous branches of flower-leaves,
which vary in their form from a linear to a heart-shaped, and
accompany small solitary flowers, with or without crested
beaded petals. The herb is much distinguished by its very
glaucous colour, and its numerous whitish leaves, some
above and some on their sides, which fall is the only
part which they grow. In plants that are not so good
the light is on the under side of their leaves, though in most
that part will not bear its influence.
This species flowers in August and September.

FIG. 15. *Maracholia*

Hemibryd Ox-fungus





J. Sowerby del. 1794

PICRIS hieracioides.

Hawkweed Ox-tongue.

SYNGENESIA *Polygamia equalis.*

GEN. CHAR. *Receptacle* naked. *Cal.* double. *Down* more or less feathery. *Seeds* rugged.

SPEC. CHAR. Calyx lax. Leaves mostly undivided. Flower stalks furnished with scales up to the calyx.

SYN. *Picris hieracioides.* Linn. *Sp. Pl.* 1115. *With.* Bot. Arr. 830. *Relb. Cant.* 297.

Hedypnois hieracioides. *Huds. Fl. An.* 342.

Hieracium asperum majori flore in agrorum limitibus. *Raii Syn.* 167.

THIS occurs abundantly about the borders of fields in a gravelly or calcareous soil, flowering in July and August. It is a plant of rude growth and not very attractive appearance. The root, we believe, is perennial, or at least biennial; stem much branched, three feet high; the branches furrowed, purple on their upper side and in their axillæ, as Linnæus most truly observes. Leaves oblong, sessile, undivided, except that the radical ones are frequently grossly dentated. The herb is rough with hooked bristles. Flowers bright yellow, the lateral ones rising on elongated branches above that which terminates the central stem. Calyx-leaves all rough on the back. Seed-down slightly feathery, sessile.

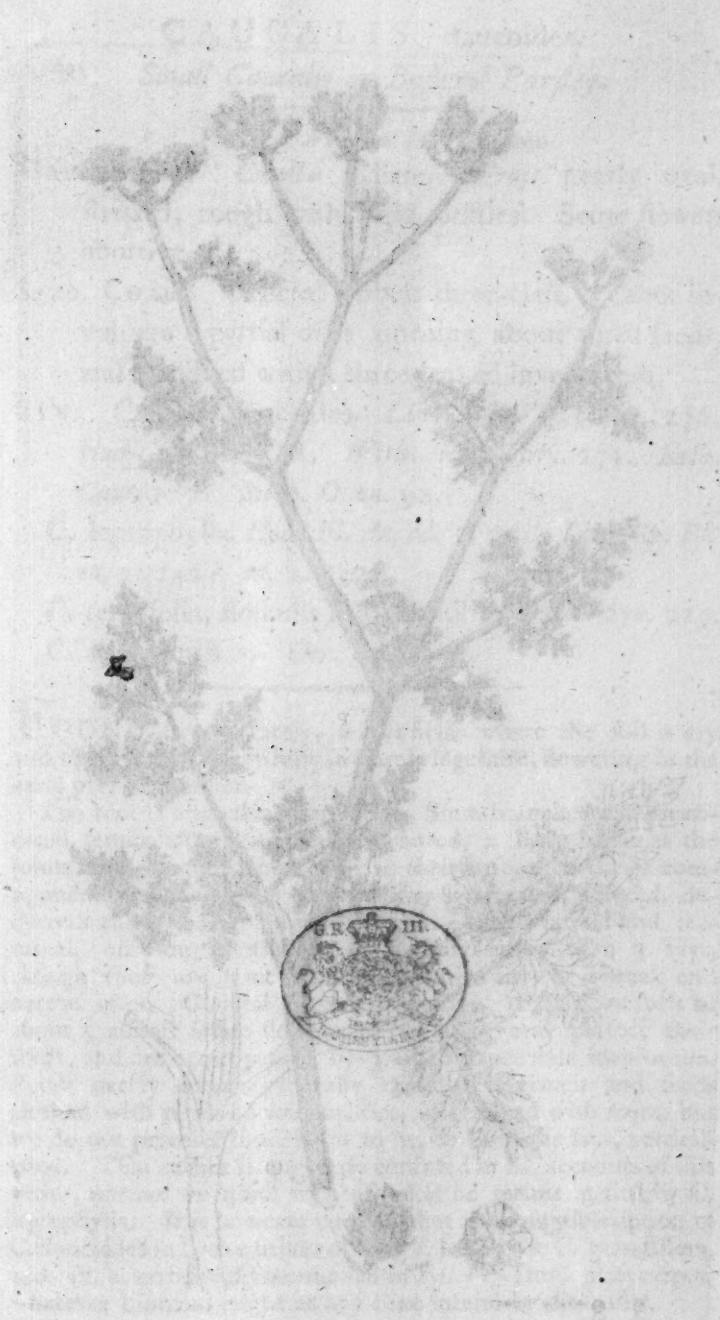
Dr. Stokes's remark in the Botanical Arrangement (p. 855, note), that the *Hedypnois* of Hudson is an artificial genus, is perfectly just. Its species are no way naturally allied, and the down, being sessile or stipitate, affords no certain permanent character in this tribe.

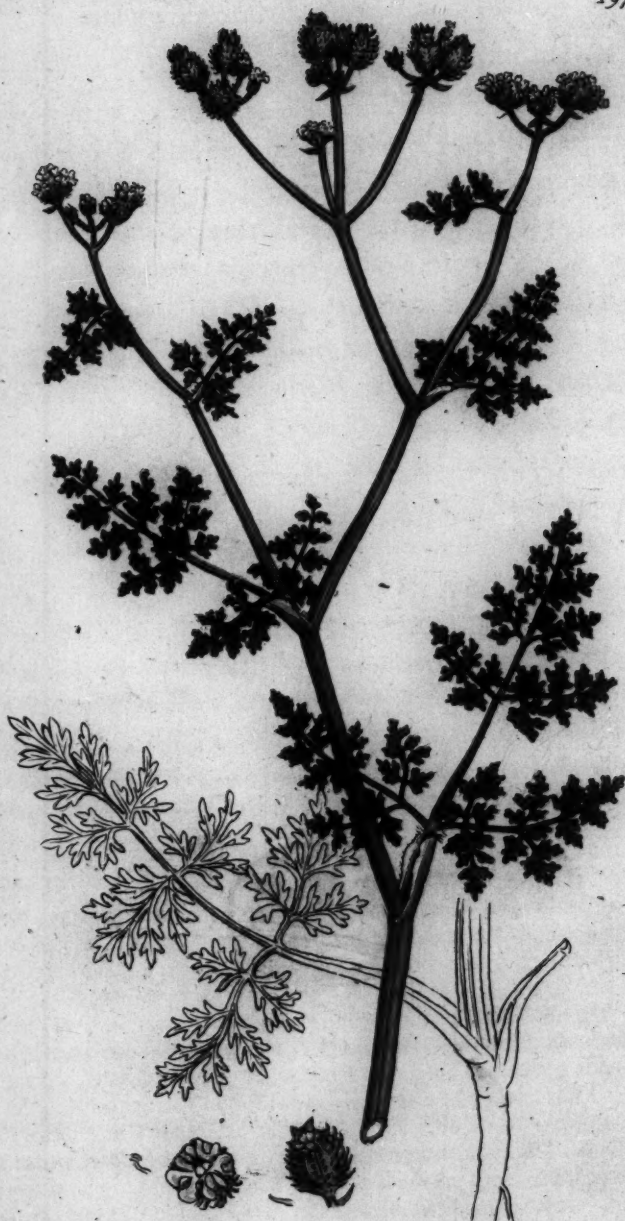
PICRIS hieracifolia

Flowered Ox-tongue

Gen. CHAR. Flowers white. Cal. lobed. Petals
more or less tubular. Stamens long.
Spec. CHAR. Leaves mostly bipinnate.
Flowers stalks furnished with leaves up to the ovary.
Syst. PICRIS hieracifolia. Linn. Sp. Pl. 1157. Fries.
Bot. Voy. 83. Kuhn. Cat. 1831.
Hed. p. 100. Hieracifolia. Linn. Sp. Pl. 1157.
Hieracium hieracifolium. Linn. Sp. Pl. 1157.
Hieracium hieracifolium. Linn. Sp. Pl. 1157.

THIS occurs abundantly about the borders of fields in a
gravelly or calcareous soil, flowering in July and August. It is
a plant of rank growth and not very attractive appearance. The
root, we believe, is perennial, or at least biennial; from much
branched, thick, fleshy, the branches furrowed, purple
on their upper side and in their axils, as in many roots truly
obovate. Leaves oblong, sessile, not divided, except that the
radical ones are frequently deeply serrate. The herb is
rough with hooked bristles. Leaves bright yellow, the
lateral ones rising on elongated petioles, those that which ter-
minate the central stem. Culm-lower on rough on the back.
Seed-down slightly feebly, white.
The flowers remain in the leaf-axils (p. 855).
Note, that the Hieracium of Linnæus is an artificial genus, is
perfectly true, its flowers are no way essentially allied, and the
down, being white or light, adds no certain permanent
character to this tribe.





2. Scurby root Aug. 1786.

CAUCALIS daucoides.

Small Caulis or Bastard Parsley.

PENTANDRIA Digynia.

GEN. CHAR. *Corollæ* radiate. *Fruit* nearly oval, striated, rough with rigid bristles. Some flowers abortive.

SPEC. CHAR. General umbels three-cleft, without involucre: partial ones ripening about three seeds, and furnished with a three-leaved involucre.

SYN. *Caucalis daucoides*. *Linn. Syst. Veg. ed.* 14. 276.

Huds. Fl. An. 112. *Witb. Bot. Arr.* 271. *Relb.*

Cant. 109. *Sibth. Oxon.* 92.

C. leptophylla. *Huds. Fl. An. ed.* 1. 99. *Linn. Sp. Pl.*

ed. 1. 242? *ed.* 2. 347.

C. tenuifolia, *flosculis subrubentibus*. *Raii Syn.* 219.

C. albis floribus. *Ger. em.* 1021.

FOUND, though rarely, in cornfields where the soil is dry and chalky, most plentifully in Cambridgeshire, flowering in the early part of summer.

The root is annual and tapering. Stem branched and divaricated, somewhat zigzag, deeply grooved, a little hairy at the joints only. Leaves three-cleft at their base, then thrice compounded, their segments very narrow, divaricated, pointed, decurrent and smooth, of a pale green. Umbels lateral and terminal, on long footstalks, of scarcely more than 3 rays, though those are sometimes accompanied by 1 or 2 weak and barren ones. General involucre none. Partial umbels of about 5 almost sessile flowers, of which 3 only perfect their seeds, and are accompanied by 3 small lanceolate involucella. Petals nearly equal, generally reddish. Germen and seeds clothed with rigid hooked bristles, intermixed with hairs, but we do not perceive those hairs to be, as Linnæus says, verticillated. That author is singularly confused in his accounts of this genus, nor are we quite sure of what he meant at first by *C. leptophylla*. It is however certain, that the long description of *C. daucoides* in both editions of *Sp. Pl.* belongs to *C. grandiflora*, and not (as erroneously mentioned in *Syst. Veg.*) to *C. platycarpus*, whatever Linnæus might at any time intend by the latter.

CALCAREOUS
Small Calcareous or Porous Fragments

These fragments are found in the same places as the other fossils, and are often associated with them. They are small, irregular, and porous, and are often found in the same places as the other fossils. They are often found in the same places as the other fossils, and are often associated with them. They are small, irregular, and porous, and are often found in the same places as the other fossils.

FOURTH These fragments are found in the same places as the other fossils, and are often associated with them. They are small, irregular, and porous, and are often found in the same places as the other fossils. They are often found in the same places as the other fossils, and are often associated with them. They are small, irregular, and porous, and are often found in the same places as the other fossils.

CAUCALIS





J. Burby dell Aug 1 1790

CAUCALIS latifolia.

Broad-leaved Caulcalis.

PENTANDRIA Digynia.

GEN. CHAR. *Corollæ* radiate. *Fruit* nearly oval, striated, rough with rigid bristles. Some flowers abortive.

SPEC. CHAR. General umbels three-cleft, with membranous involucre: partial ones ripening about 5 seeds. Leaves pinnated, serrated.

SYN. *Caucalis latifolia.* *Linn. Syst. Veg. ed. 14.* 276. *Huds. Fl. An. 113.* *With. Bot. Arr. 271.* *Relb. Cant.* 110.

C. arvensis echinata latifolia. *Raii Syn.* 219.

Tordylium latifolium. *Linn. Sp. Pl.* 345. *Huds. Fl. An. ed. 1.* 98.

THIS is rather less frequent than the last, but thrives in the same kind of soils and situations. It is one of the most beautiful of umbelliferous plants, and makes a conspicuous appearance in the dry fields of Cambridgeshire in July.

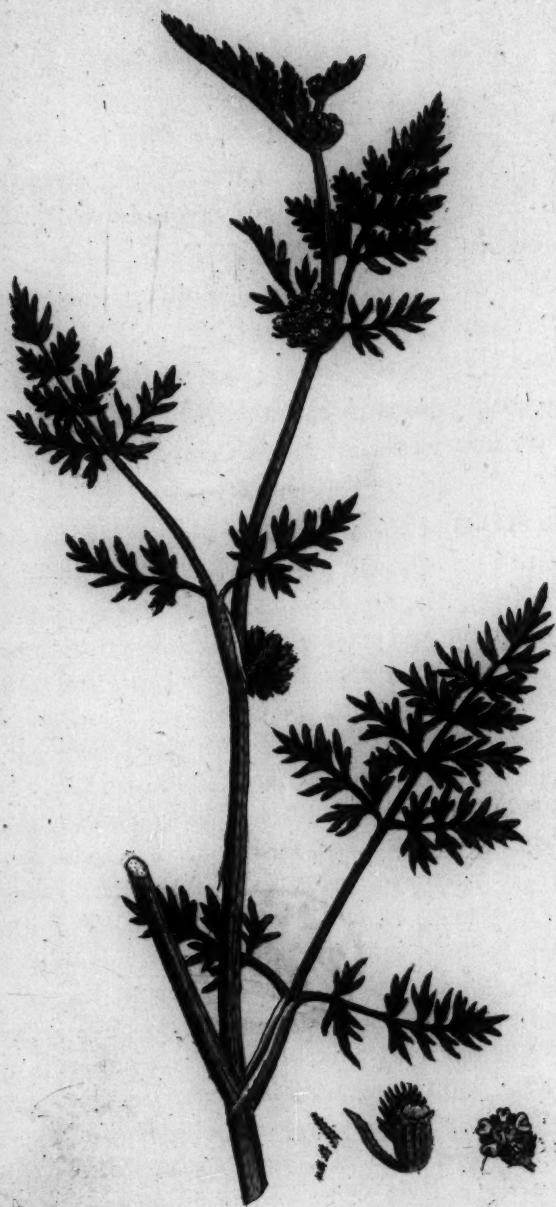
Root annual. Stem taller and less spreading than in *C. daucoides*, but as deeply furrowed, and more rough. Leaves rather glaucous, rough, simply pinnated, serrated; the lower pair of leaflets sometimes compound at the base. Umbels of rarely more than 3 rays, with a general involucre of 3 or 4 short ovate leaves, ribbed in the middle, with a membranous border. Partial umbels of several nearly sessile flowers, of which about 5 come to perfection. Partial involucre like the general ones. Flowers red, a little radiate. Seeds very rough with reddish upright straight rough bristles.

CAUCALIS latifolia

Small-leaved Caulis

CAUCALIS latifolia. Small-leaved Caulis. This is a small, annual plant, with a single, upright, branched stem, which is covered with a dense, white, woolly pubescence. The leaves are small, ovate, and have a serrated margin. The flowers are small, and are arranged in a loose, terminal raceme. The fruit is a small, round, capsule, which is covered with a dense, white, woolly pubescence. This plant is native to the mountains of the Caucasus, and is found in the same localities as the other species of the genus. It is a very common plant, and is often found in the same places as the other species of the genus. It is a very common plant, and is often found in the same places as the other species of the genus.

THIS is rather the frequentest of the small-leaved species in the kind of soil and situation. It is one of the most common of umbelliferous plants, and is found in a great many species. It is the only species of Caulis which is found in the Caucasus. It is a small, annual plant, with a single, upright, branched stem, which is covered with a dense, white, woolly pubescence. The leaves are small, ovate, and have a serrated margin. The flowers are small, and are arranged in a loose, terminal raceme. The fruit is a small, round, capsule, which is covered with a dense, white, woolly pubescence. This plant is native to the mountains of the Caucasus, and is found in the same localities as the other species of the genus. It is a very common plant, and is often found in the same places as the other species of the genus.



J. Sowerby del. R. P. 1796.

CAUCALIS nodosa.

*Knotted Caulis.**PENTANDRIA Digynia.*

GEN. CHAR. *Corolla* radiate. *Fruit* nearly oval, striated, rough with rigid bristles. Some flowers abortive.

SPEC. CHAR. Umbels lateral, simple, nearly sessile.

SYN. *Caucalis nodosa.* *Huds. Fl. An.* 114. *With. Bot. Arr.* 273. *Relb. Cant.* 111. *Sibth. Oxon.* 93.

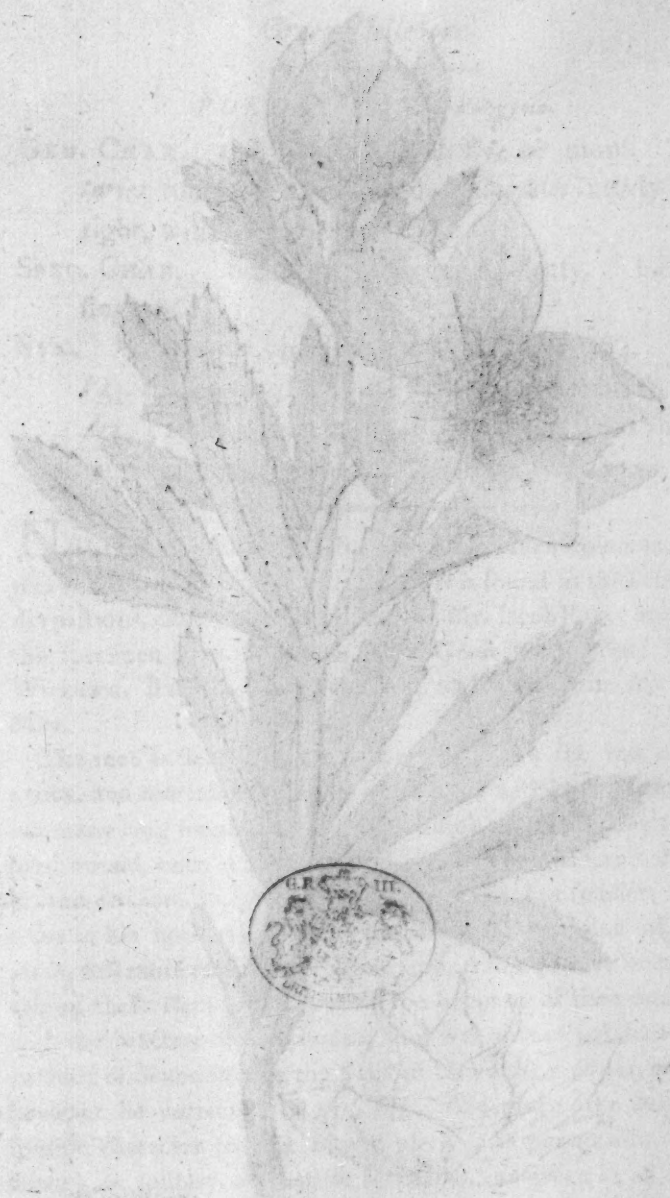
C. nodosa echinato semine. *Raii Syn.* 220.

Tordylium nodosum. *Linn. Sp. Pl.* 346.

COMMON on banks and about the borders of fields, especially on a gravelly or calcareous soil, flowering from May to July, after which its dry stalks and heads of seeds remain for a considerable time, and become bleached at length by the weather.

Root annual. Stems prostrate, branched, leafy, striated, roughish with reflexed hairs. Leaves bipinnate, and sharply cut; opposite to each of which, and often partly embraced by its sheathing footstalk, stands a small simple umbel of several minute, white or reddish, scarcely radiating, flowers, each on a very short flowerstalk, and surrounded by linear hairy involucre. The germens and seeds, both in the Linnæan specimens and in ours, are all rough, the inner ones with warty points, the outermost, and especially on their outside, with longish, straight, rough, rigid hairs, as in other species of *Caucalis*, to which genus (and not to *Tordylium*) this plant is surely to be referred upon that account, whether it has any abortive flowers or not. Future observations must decide whether the smoother seeds of the centre are ever really abortive, or destitute of a vegetative principle. Practical observers of nature in the country have it in their power to clear up many points of this kind, relative to the most common plants, which, if communicated from time to time to those who have the means of making them public, would materially advance the interests of science.

CAUCALIS, nobilis.





T. lutea Del. Soc. 1794.

HELLEBORUS viridis.

*Green Hellebore.**POLYANDRIA Polygynia.*

GEN. CHAR. *Cal.* none. *Petals* five or more. *Nectararies* tubular, two-lipped. *Capsules* nearly upright, with many seeds.

SPEC. CHAR. Stem many-flowered, leafy. Leaves fingered.

SYN. *Helleborus viridis.* *Linn. Sp. Pl.* 784. *Syst. Veg. ed.* 14. 519. *Huds. Fl. An.* 245. *With. Bot. Arr.* 581. *Relb. Cant.* 217. *Sibth. Oxon.* 176.

H. niger hortensis, flore viridi. *Raii Syn.* 271.

NEITHER of our Hellebores can be called common, but this is the more scarce of the two. It is found in thickets and drypastures, chiefly in chalk countries. Mr. Jacob Rayer brought this specimen from the woods about Great Marlow and High Wickham, Bucks. It is perennial, and flowers in April or May.

The root is fleshy, acrid and purgative like the rest of its genus, and not inferior to any of them in activity. It throws out many long simple fibres, and produces a stem scarcely a foot high, round, once or twice divided, with a fingered serrated leaf at each division, in form like the radical ones, but smaller. Linnæus in his not very accurate manuscript description of this plant, still more confused in *Mant.* 408, seems to have intended calling these stem-leaves *bractææ*, on account of their analogy with the bractææ of *H. foetidus*, and was thence led into the paradox of denominating the stem of *H. viridis* a *scapus*, which however he corrected in *Syst. Veg.* We prefer the original specific character to that in the place last mentioned. The flowers are solitary, on shortish footstalks, and green in all their parts. Petals spreading, permanent. Styles 3 or 4, scarcely more, about as long as the corolla. The whole herb is smooth, and of a bright shining green.

HELLEBORUS viridis.

Green Hellebore.

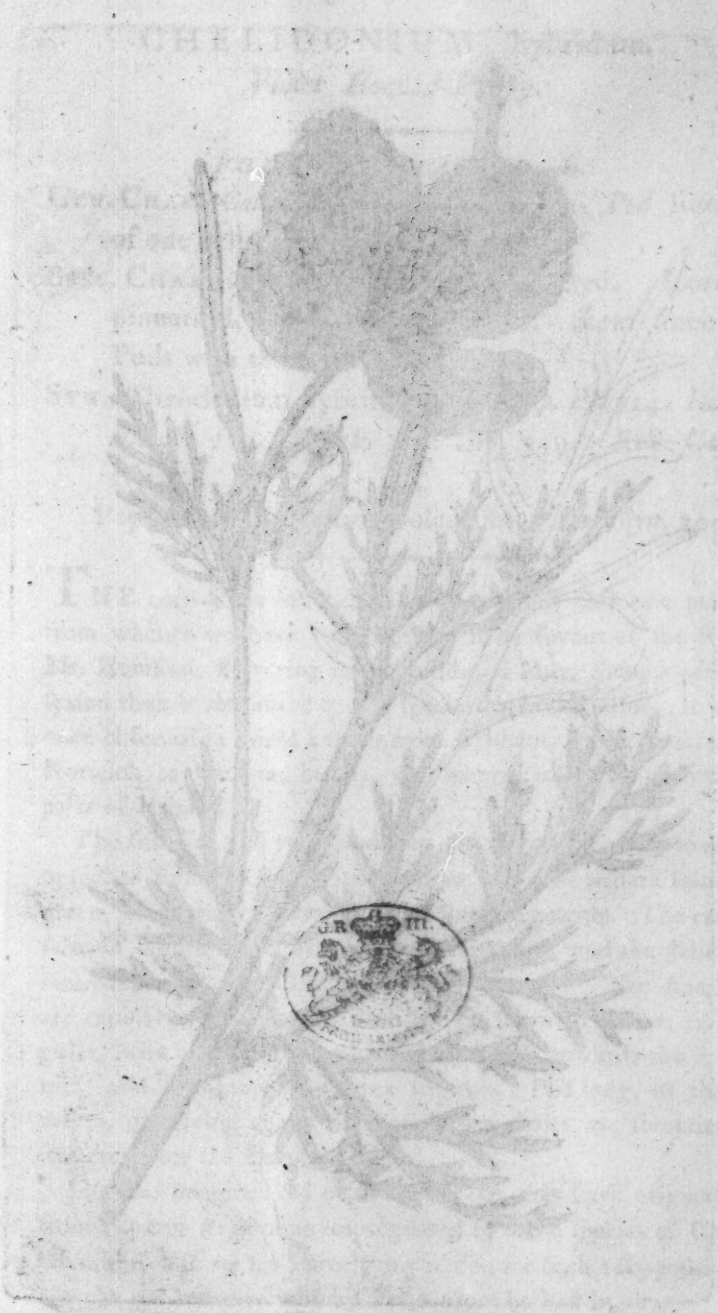
POLYANDRUS & POLYGYNUS.

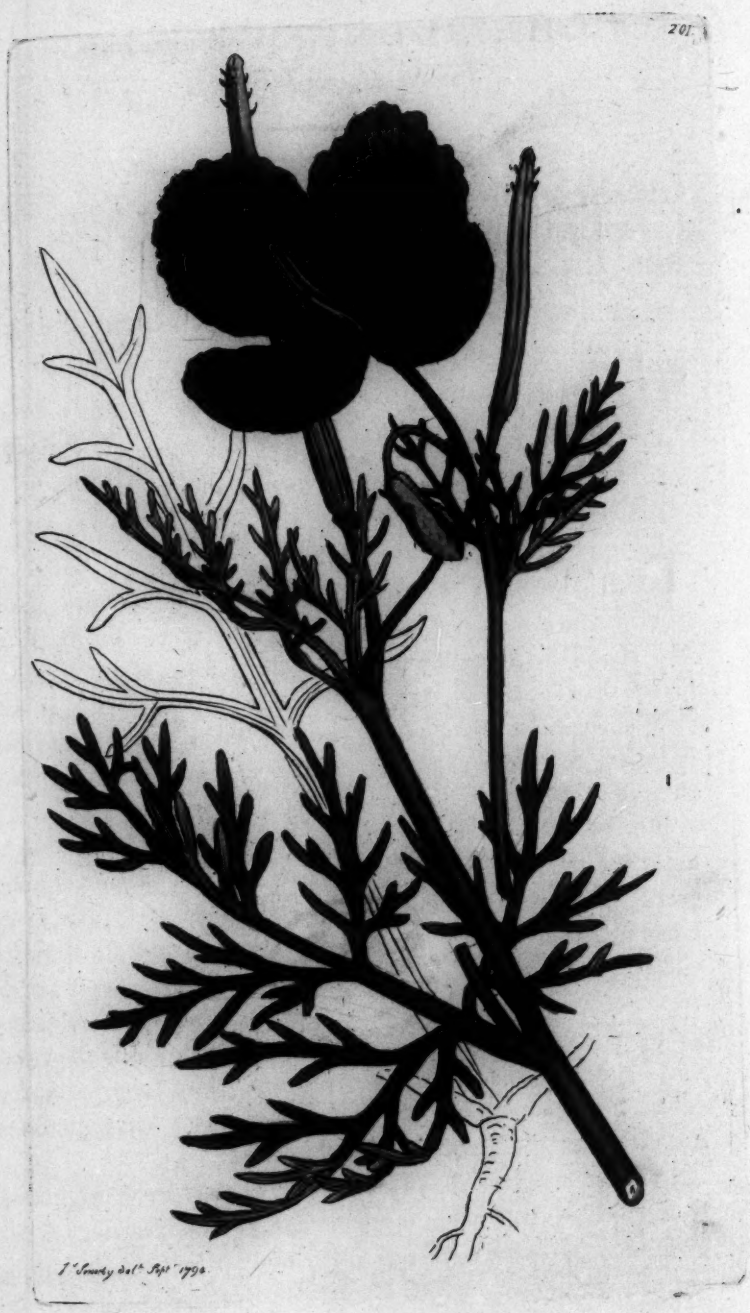
Gen. Char. Cal. none. Pet. five or more. An.
 seven tubular, two-lobed. Corolla nearly up-
 right with narrow lobes.
 Spec. Char. Stem naked, branched, leafy. Leaves

Stem. Hirsute, with five or six leaves. Leaves
 pet. tubular, two-lobed. Corolla nearly up-
 right with narrow lobes. An. five or six.

NELLY. Green Hellebore is a perennial, but
 this is the most common of the two. It is found in thickets and
 dry pastures, and is the most common of the two. It is found in thickets and
 this specimen from the woods near Green Hellebore and High
 Wickham, Bucks. It is perennial, and flowers in April or
 May.

The root is thick, and fleshy. The stem is
 green, and erect. It is very much branched, and
 has many long, thin, and narrow leaves. The
 leaves are round, or oval, and are very much
 high, round, or oval, and are very much
 at each division, in some cases the leaves are
 stems in the very young state, and are very
 plant. It is more common in the woods, and
 among these hellebore leaves, on account of their analogy
 with the leaves of the hellebore, and was named after the
 number of divisions in the stem of H. viridis, which
 however he corrected to five. We prefer the original
 specific character to that in the above mentioned. The
 flowers are solitary, on shortish footstalks, and given in all their
 parts. These spreading perianths, being green and scarcely more
 about as long as the corolla. The whole herb is thick, and
 of a bright shining green.





J. S. Gandy del. Sep. 1894.

CHELIDONIUM hybridum.

*Violet Horned-Poppy.**POLYANDRIA Monogynia.*

GEN. CHAR. *Cal.* two-leaved. *Petals* four. *Pod* linear, of one cell.

SPEC. CHAR. Flower-stalks single-flowered. Leaves pinnatifid, with linear segments. Stem smooth. Pods with three valves.

SYN. *Chelidonium hybridum.* *Linn. Sp. Pl.* 724. *Huds. Fl. An.* 229. *Wieb. Bot. Arr.* 549. *Relb. Cant.* 201.

Papaver corniculatum violaceum. *Raii Syn.* 309.

THE corn-fields of Cambridgeshire afford this rare plant, from whence we have just received it by favour of the Rev. Mr. Hemsted, flowering in the middle of May, a much earlier season than is attributed to this species by Mr. Hudson. It was once observed in a field 4 miles from Aylsham, in the road from Norwich to Cromer, but is, we believe, unknown in other parts of Britain.

The small annual root produces one upright, round, much-branched stem, clothed with alternate leaves of a dark shining green, often triply pinnatifid, with linear segments. The calyx falls off before the flowers are well expanded, and the delicate violet-coloured petals last but a very few hours. The stamina are capillary, and not very numerous. Germen linear, triangular, with a furrow along each side, bristly towards the summit, and terminated by three stigmas. Pod long, of three valves, producing many seeds. A few hairs are sometimes scattered over the stem and calyx.

Linnæus imagines the plant before us may have originated from *Papaver Argemone* impregnated by some species of *Chelidonium*; but we see scarcely any reason for such a supposition, nor can we conceive which *Chelidonium* he had in view.





2nd Sunday, 24th Sept. 1894.

HYPNUM intricatum.

Matted Hypnum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Capsule* with a lid. *Veil* smooth. *Flower-stalk* from a lateral tubercle invested with scales.

SPEC. CHAR. Shoots creeping, with shortish branches. Leaves spreading, lanceolate, taper-pointed. Capsules urn-shaped, inclining, with a recurved beak.

SYN. *Hypnum intricatum*. Schreb. *Fl. Lips.* 99. Dicks. *Crypt. fasc.* 2. 10. *With. Bot. Arr.* v. 3. 120.

THIS moss was first discovered in England by Mr. Robert Teesdale, F.L.S. in some woods on the south-east side of the river at Matlock-bath, from whence Dr. Smith sent it to Mr. Dickson, and from his original specimens our figure was drawn. It well agrees with Schreber's description, and with the figures of Vaillant quoted by him (*tab.* 28. *f.* 2, 6, 7, 8).

The shoots thickly interwoven form a close dark-green mat on the decayed bark of trees in damp woods, and extend to several inches in length. The branches are short and slender, clothed with alternate, lanceolate, sharp-pointed, entire leaves, those at the summit being palest; and, as Schreber remarks, the leaves are most lax and spreading in a dried state. Numerous reddish stalks, scarcely an inch high, each arising from an oval bulb at the side of the stem, bear small, short, inclining, urn-shaped capsules, red at the margin, and fringed with numerous teeth. Their lid is short, swelling, and terminated by a shortish recurved beak. Veil slender, cylindrical, whitish, but not so remarkably white and conspicuous as in *H. serpens*, which this species otherwise much resembles in habit, though not in the form of its capsules.

ASTRAGALUS

Sp. Pl. Med. Fac. 1, et Pl. Med. Fac. 2

DIADALMA

GEN. CHAR. Pm. of 140

SP. CHAR. Stem

girth, curved.

flowers: stalks

Stem. A. 140

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J. Hardy del. Apr. 1794.

ASTRAGALUS glycyphyllos.

Sweet Milk-Vetch, or Wild Liquorice.

DIADELPHIA Decandria.

GEN. CHAR. *Pod* of two cells, swelling.

SPEC. CHAR. Stem prostrate. Pods somewhat triangular, curved. Leaves longer than the spikes of flowers; leaflets oval.

SYN. Astragalus glycyphyllos. *Linn. Sp. Pl.* 1067.

Huds. Fl. An. 322. *Willd. Bot. Arr.* 787. *Retz.*

Cant. 277. *Sibth. Oxon.* 227.

A. luteus perennis procumbens, vulgaris five sylvestris. Raii Syn. 326.

FOUND about way sides, borders of fields, and similar places, on a chalky or gravelly soil in various parts of England, less frequently in Scotland. It is perennial, and flowers in June; the seeds ripen about August.

The stems growing prostrate among grass and bushes, added to the greenish hue of the whole plant, cause it to be frequently overlooked, though often extending 2 or 3 feet in length. They are more or less zigzag, angular and striated. Leaves alternate, consisting of about 5 to 7 pair of roundish or oval leaflets, with an odd one at the end, and a pair of ovate pointed stipulæ at the base. Spikes of flowers arise from the bosoms of the leaves, solitary, on foot-stalks, shorter than the adjoining leaf. The flowers are pale sulphur-coloured, often with a brownish tinge. Pods reddish, inflated, containing many seeds.

The leaves when chewed have a sweetish taste, which soon changes to a nauseous bitter. Cattle are not fond of them.





SIUM latifolium.

*Broad-leaved Water Parsnep.**PENTANDRIA Digynia.*GEN. CHAR. *Fruit* nearly oval, compressed, striated.*Involucrum* general and partial, of many leaves.*Petals* heart-shaped, uniform.

SPEC. CHAR. Leaves pinnated; leaflets oblong-lanceolate, equally serrated. Umbels terminal.

SYN. *Sium latifolium.* *Linn. Sp. Pl.* 361. *Huds. Fl.**An.* 118. *With. Bot. Arr.* 291. *Relb. Cant.* 115.*Sibth. Oxon.* 96.*S. latifolium foliis variis.* *Raii Syn.* 211.

SENT by Mr. Woodward from Norfolk, where it is not uncommon, nor is it of very rare occurrence in rivers and fens throughout England; but the umbelliferous tribe has been more overlooked than most others, except Cryptogamia. This is one of the largest British plants of that tribe. Its perennial root, creeping among mud and gravel, throws up round, hollow, deeply furrowed stems 4 or 5 feet in height, clothed with alternate leaves, composed of 7 or 9 leaflets, which vary much in breadth, but are always very equally and neatly serrated, in which respect they differ materially from *S. angustifolium*, as well as in being much longer. Mr. Hudson well remarks, that such as grow under water are often laciniated. The umbels are terminal, large, and many-flowered. Involucra various in size and figure, sometimes lobed and often serrated. Seeds small.

It is a plant of an acrid poisonous quality, particularly the roots.

STUM. latifolium.

Brachyotum latifolium

Gen. Char. Stem erect, branched at the base, the branches spreading, the leaves alternate, ovate-lanceolate, acute, serrate, the upper ones longer, the lower ones shorter, the petioles short, the flowers small, the fruit globose, the seed globose, the embryo short, the cotyledons short, the root short, the plant perennial.

Spec. Char. Stem erect, branched at the base, the branches spreading, the leaves alternate, ovate-lanceolate, acute, serrate, the upper ones longer, the lower ones shorter, the petioles short, the flowers small, the fruit globose, the seed globose, the embryo short, the cotyledons short, the root short, the plant perennial.

Stem. Stem latifolium. The leaves are alternate, ovate-lanceolate, acute, serrate, the upper ones longer, the lower ones shorter, the petioles short, the flowers small, the fruit globose, the seed globose, the embryo short, the cotyledons short, the root short, the plant perennial.

Stem. Stem latifolium. The leaves are alternate, ovate-lanceolate, acute, serrate, the upper ones longer, the lower ones shorter, the petioles short, the flowers small, the fruit globose, the seed globose, the embryo short, the cotyledons short, the root short, the plant perennial.

Stem. Stem latifolium. The leaves are alternate, ovate-lanceolate, acute, serrate, the upper ones longer, the lower ones shorter, the petioles short, the flowers small, the fruit globose, the seed globose, the embryo short, the cotyledons short, the root short, the plant perennial.

SENT by Mr. Woodhouse, from Norfolk, where it is not very common, nor is it of very rare occurrence in these and some other parts of the country, but the capsule has been more overlooked than most other species of the genus. This is one of the largest plants of the tribe, the perennial root, creeping among the ground, throws up several hollow, deeply furrowed stems 4 or 5 feet in height, clothed with alternate leaves, composed of 7 or 8 lancelets, which vary much in breadth, but are always very equally and uniformly serrated, in which respect they differ materially from *S. angustifolium*, as well as in being much longer. The highest well remarks, that such as grow under water are often lacinated. The umbels are terminal, large, and many-flowered. Involucres various in size and shape, sometimes lobed and often serrated. Seeds small.

It is a plant of an acid poisonous quality, particularly the root.

S. 8. Frankena Cove. 1/4. 1/2. 3/4. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836

[illegible]



S. Smeat. del. N° 1794.

FRANKENIA lævis.

*Smooth Sea-Heath.**HEXANDRIA Monogynia.*GEN. CHAR. *Cal.* 5-cleft, funnel-shaped. *Petals* 5.*Stigmas* 3. *Capf.* of one cell, with 3-valves.

SPEC. CHAR. Leaves linear, clustered, ciliated at the base.

SYN. *Frankenia lævis.* *Linn. Sp. Pl.* 473. *Huds. Fl.**An.* 137. *With. Bot. Arr.* 367. *Relb. Cant.* 135.*Lychnis supina maritima Ericæ facie.* *Raii Syn.* 338.

A NATIVE of muddy salt marshes, more especially on our eastern coasts. Mr. Lilly Wigg sent it from Yarmouth. It is perennial, and flowers after midsummer.

Root woody. Stems procumbent, round, branched. Leaves in little clusters, small, succulent, linear, or rather lanceolate and revolute, dilated at the base into a pair of minute, membranous, ciliated stipulæ. Flowers mostly at the divarications of the branches, rarely terminal, solitary, sessile, delicate and elegant in form and colour, like those of a little red pink or campion. Calyx with 5 (rarely more) teeth, angular. Nectary a yellow scale attached to the claw of each petal. Stamina and Pistillum much resembling those of the *Lychnis* tribe, to which the plant before us is nearly allied, though so different from most of them in habit.

This genus was first determined by Micheli, who named it *Franca* after his friend Franchi, a Florentine physician and botanist, born at Lucca, who had a principal hand in founding the Botanical Society of Florence. It should seem that Linnæus did not think this gentleman's claims to such an honour sufficient, and therefore changed the name to *Frankenia*, to perpetuate the memory of Frankenius, professor at Upsal in the middle of last century, author of a not very useful catalogue of plants called *Speculum botanicum*, of which there are 2 editions, both at present very rare.

FRANKENIA lutea

Sp. Pl. 1204

FRANKENIA lutea

FRANKENIA lutea, Linn. Sp. Pl. 1204. Fr. 1204.

FRANKENIA lutea, Linn. Sp. Pl. 1204. Fr. 1204.

FRANKENIA lutea, Linn. Sp. Pl. 1204. Fr. 1204.

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FRANKENIA lutea, Linn. Sp. Pl. 1204. Fr. 1204.

HERNIARIA glabra.

Smooth Rupture-Wort.

PENSTEMON glabra.

GEN. CHAR. Cor. in 2 lobes. Cor. hollow. Five
 parted flamm. Capsule with one seed.
 SPEC. CHAR. Herbaceous and leafy.
 SYN. *Herniaria glabra*. L. K. Sp. Pl. dist. *glabra* P.
As. 1000. 17th. Bot. Ar. 180.
Herniaria glabra L. K. Sp. Pl.

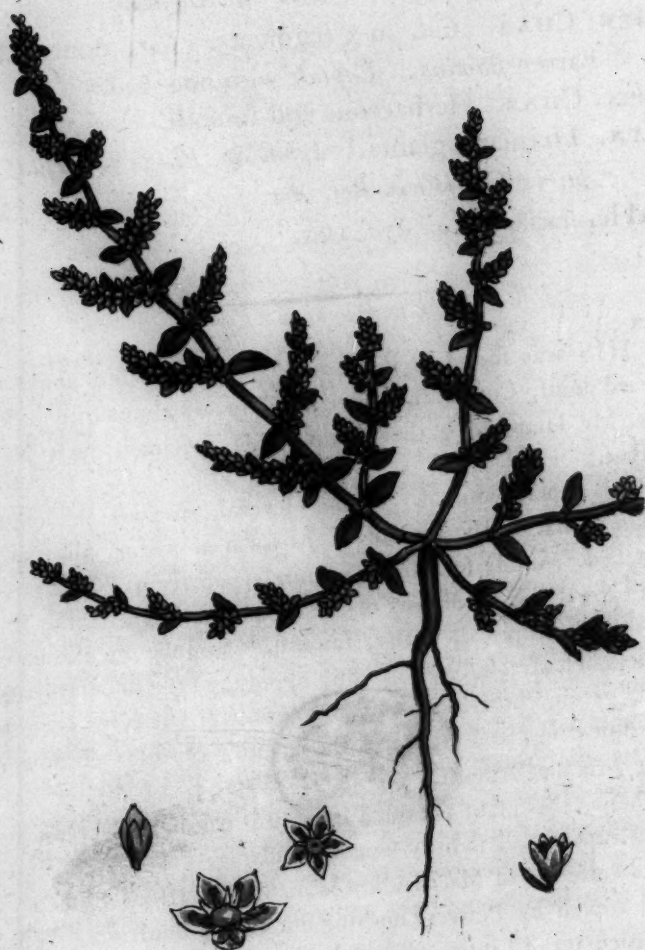
THIS was first discovered about the
 Island point, Cape Cod, by the Rev. Mr. H. H. H. near New-
 Bedford.

The plant is several, various in height,
 from 1 to 2 feet. The leaves of a stem, alternately
 branched, smooth, and entire, or slightly
 serrate above, and smooth below. The flowers
 are small, white, and solitary. The capsule
 is small, and the seed is small. The plant
 is found in wet places, and is common in
 the marshes. The capsule is closed
 after flowering, and the seed is small. It flowers
 about July and August.



Whether this plant is a native, or was introduced from
 some other country, is hardly worth enquiring.

The variety of Mr. H. H. H. is now in the
 garden of Mr. H. H. H. near New Bedford. When
 the seedlings of this plant were first seen, it was not
 supposed to be a native, but there is much reason to
 suppose it is a native.



HERNIARIA glabra.

Smooth Rupture-Wort.

PENTANDRIA Digynia.

GEN. CHAR. *Cal.* in 5 segments. *Cor.* none. Five barren *stamina*. *Capsule* with one *seed*.

SPEC. CHAR. Herbaceous and smooth.

SYN. *Herniaria glabra*. *Linn. Sp. Pl.* 317. *Huds. Fl.*

An. 108. *Witb. Bot. Arr.* 250.

Herniaria. *Raii Syn.* 160.

THIS was found in Ray's time in gravelly soil about the Lizard point, Cornwall, where it still grows abundantly. The Rev. Mr. Hemsted gathered this wild specimen near Newmarket.

Root taper, annual. Stems several, various in length, spreading flat on the ground in the form of a star, alternately branched, round, sometimes minutely pubescent. Leaves opposite about the lower part of the stem, one often smaller than the other, elliptical, entire, smooth. *Stipulæ* membranous. Flowers in leafy clustered racemi, opposite to the solitary leaves, small, green, short-lived, very numerous. The calyx is closed after flowering, and embraces the ripening capsule. It flowers about July and August.

Whence this plant obtained its absurd name, and credit for curing ruptures, is hardly worth enquiring.

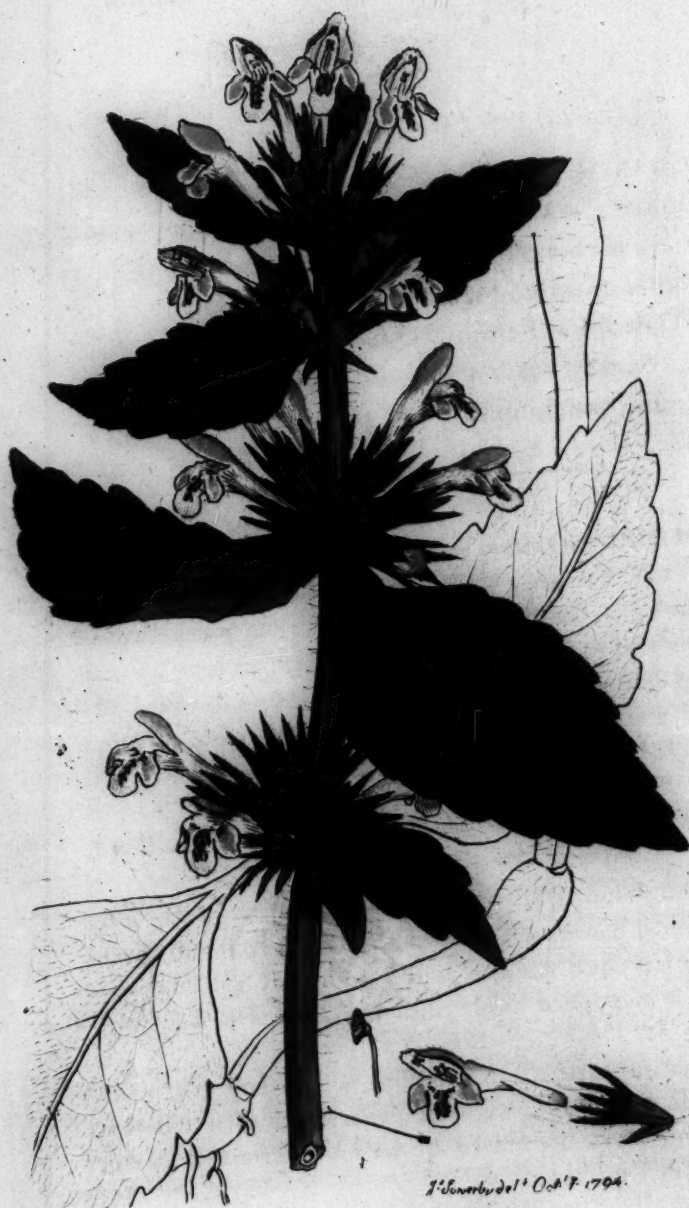
The variety β of Mr. Hudson is manifestly (from Plukenet's figure copied by Petiver) nothing but *Glaux maritima*. What *H. lenticulata* of Linnæus may be, it is not our purpose now to determine, but there is much reason to suppose it *Cressa cretica*.

HERNANDIA glabra.

Smooth Rupture-Wort.

HERNANDIA glabra. Linn. Sp. Pl. 317. Fl. Ind. M.
 Gen. Char. Cal. in 5 segments. Cor. none. Five
 petals. Stamens. Capsule with one seed.
 Spec. Char. Herbaceous and smooth.
 Gen. Hernandia glabra. Linn. Sp. Pl. 317. Fl. Ind. M.
 on rock. Herb. Bot. 1850.
 Hernandia. Ray 30. 180.

THIS was found in a large quantity about the
 Lizard point, Cornwall, where it grows abundantly. The
 Rev. Mr. Marshall gathered this with specimens near New-
 market.
 Root tapering annual. Stems several, various in length,
 branching at the ground in the form of a flat, alternately
 branched, rough, sometimes minutely pubescent. Leaves op-
 posite about the lower part of the stem, somewhat smaller than
 the others, elliptical, entire, smooth, petioles membranous.
 Flowers in leafy clusters, opposite to the solitary leaves,
 small, green, throat-limb very prominent. The calyx is closed
 after flowering, and embraces the ripening capsule. It flowers
 about July and August.
 Whence this plant obtained its absurd name, and credit for
 curing ruptures, is hardly worth enquiring.
 The variety of Mr. Hudson is manifestly (from Plukenet's
 figure copied by Poirer) nothing but *Cleome maritima*. What
 H. tentatilis of Linnaeus may be, it is not our purpose now to
 determine, but there is much reason to suppose it *Cleome cretica*.



J. Bonerhude! Oct 7 1794.

GALEOPSIS Tetrahit.

*Red Hemp-Nettle.**DIDYNAMIA Gymnospermia.*

GEN. CHAR. Upper lip of the *corolla* slightly notched, vaulted; lower lip with two teeth on its upper side.

SPEC. CHAR. Stem swelled below the joints. Upper whorls crowded together. Calyx pungent.

SYN. Galeopsis Tetrahit. *Linn. Sp. Pl.* 810. *Huds.*

Fl. An. 257. *Witb. Bot. Arr.* 608. *Relb. Cant.* 228.

Lamium cannabino folio vulgare. Raii Syn. 240.

A TROUBLESOME weed in corn-fields, gardens, &c. on a gravelly soil, but being strictly annual is easily eradicated before flowering. The stem is quadrangular, but much swelled below 2 or 3 of the lowermost joints. Every part is rough with very sharp, but not venomous, prickles, and the calyx-teeth are very pungent. The herb has a strong, not aromatic, odour when bruised. The corolla varies much in size and colour, from purple to white, but the base of the lip seldom loses its elegant dark streaks. The antheræ are singularly two-lobed, and hairy.

Dr. Smith found at Matlock in 1788 a remarkable variety, whose terminal flowers were always regularly 4-cleft and falver-shaped, with 4 equal stamina, while all the rest had their proper form, as mentioned in his edition of *Linn. Flo. Lapponica*, p. 201.

The beautiful variety δ of Hudson, with a large yellowish flower, is so remarkable, we shall give a figure of it when it comes in our way; nor indeed are we quite certain of its not being a distinct species.

GENISTA pilula.

Hairy Green-Weed.

D. L. S. 1814. *Desmodium*.

GEN. CHAR. Calyx with 2 teeth above, 2 below. Stands erect, bent backwards from the rest of the flower.

SPEC. CHAR. Leaves green, hairy, oblong, pinnate.

Sp. Pl. 94. *Genista pilula*.

Genista pilula L. 159.

IN 1814, first seen at the house of the abundance they were found, and were not seen again until by favour of William Lister, Esq. they were found in May. After the flowers are past, it is difficult to observe, very difficult to be found; and even when the plant is extremely high, escaped the notice of the most experienced observers of the day.

Root woody, like that of a dwarf willow, prostrated, and branched wherever former leaves have given place to new ones. Their extremities, and their very young branches, are the backs of the leaves, which are green, hairy, and serrate. Flowers and calyxes yellow, with silky feelers and stamens. The calyxes are all very short, and the flower once broken, it is not a long time before it is gone. The back of the calyx is hairy as that of the calyx, and even the seed is hairy.





J. Sowerby del. '04. 1. 1794

GENISTA pilosa.

Hairy Green-Weed.

DIADELPHIA Decandria.

GEN. CHAR. *Cal.* 2-lipped, with 2 teeth above, 3 below. *Standard* oblong, bent backwards from the rest of the flower.

SPEC. CHAR. Leaflets lanceolate, obtuse. Stem tuberculated, prostrate.

SYN. *Genista pilosa.* *Linn. Sp. Pl.* 999. *Huds. Fl. An.* 311. *With. Bot. Arr.* 759.

HIGH sandy heaths about Bury produce in abundance this very rare plant, and we received it from thence by favour of William Mathew, Esq. flowering in May. After the flowers are past, it is (as Mr. Woodward observed) very difficult to be found; and either from this cause, or its being extremely local, escaped the notice of Ray and the accurate observers of his day.

Root woody and perennial. Stems like those of a dwarf willow, prostrate, branched, tuberculated wherever former leaves have grown, angular and leafy towards their extremities, and their very youngest branches are silky, like the backs of the leaves, which are ternate, small and obtuse. Flowers numerous, solitary or in pairs, of a full yellow, with silky footstalks and calyx. The teeth of the latter are all very short, and the 2 upper ones broadest. Seeds about 3 or 4 in the unripe germen. The back of the standard is often as silky as the calyx, and even the keel is hairy.

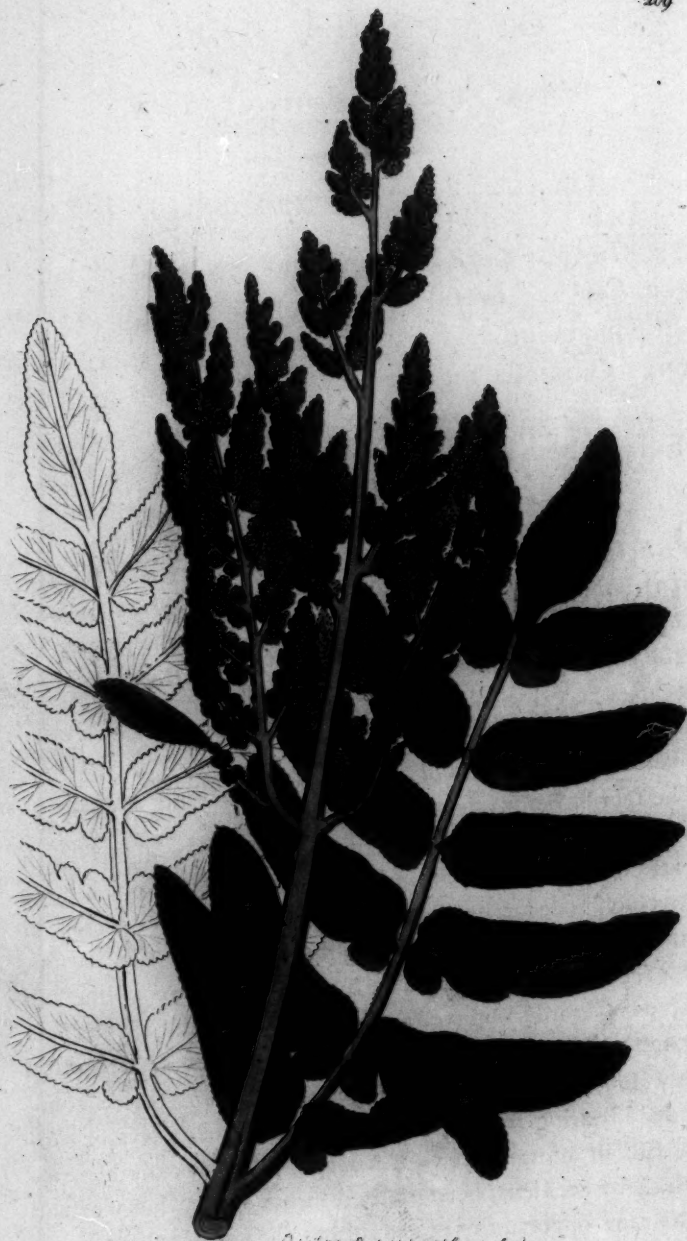
GENISTA pilosa.
Many Green-Hill.

DIAGNOSTIC CHARACTERS.

Gay, Char. Cal. 1-lipped, with a tooth above, 3 below, extremely strong, bent backwards from the rest of the flower.
Stem, Char. Leaves lanceolate, smooth, green, upper-
ciliated, prostrate.
Stem, Genista pilosa. Area 29. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 945. 946. 947. 948. 949. 950. 951. 952. 953. 954. 955. 956. 957. 958. 959. 960. 961. 962. 963. 964. 965. 966. 967. 968. 969. 970. 971. 972. 973. 974. 975. 976. 977. 978. 979. 980. 981. 982. 983. 984. 985. 986. 987. 988. 989. 990. 991. 992. 993. 994. 995. 996. 997. 998. 999. 1000.

High lands being about half grown in abundance this very rare plant, and we were not disappointed by finding it. After the flowers were full, it is (as Mr. Woodworth observed) very difficult to be found; and certainly from this cause, or its being extremely local, escaped the notice of Hay and the accurate collectors of the day.
Root woody and perennial. Stems like those of a dwarf yellow-prostrata, branched, subscandent, otherwise forming leaves have green, rather and best towards their extremities and their very pointed, sometimes with the back of the leaves, which are serrate, blunt and acute. Flowers numerous, solitary or in pairs, of a full yellow, with blue-limb and center. The teeth of the leaves are all very short, and the upper ones branched. Seeds show 2 or 3 in the upper part. The back of the standard is often as blue as the calyx, and even the seed is hairy.





1875. Published by J. H. Fisher in London.

OSMUNDA regalis.

*Osmund royal, or Flowering Fern.**CRYPTOGAMIA Filices,—spicata.*GEN. CHAR. *Capsules* naked, globose, two-valved.

SPEC. CHAR. Frond bipinnate, terminating in a compound cluster of fructification.

SYN. *Osmunda regalis.* Linn. *Sp. Pl.* 1521. *Huds.**Fl. An.* 449. *Witb. Bot. Arr.* v. 3. 47.*Filix ramosa non dentata florida.* *Raii Syn.* 125.

OSMUNDA belongs to that tribe of ferns whose fructification, instead of being borne on the back of the frond, is produced by a metamorphosis, as it were, of the leaf itself; neither are the capsules bound with a ring, as in most of the dorsiferous ferns. See an excellent note of Dr. Stokes's *Bot. Arr.* v. 3. 46. and Dr. Smith's paper *de filicum generibus dorsiferarum*, in the 5th vol. of the *Memoirs of the Turin Acad.* p. 147.

The species before us occurs here and there in watery shady meadows and spongy bogs, making a conspicuous figure with its clusters of fructification in July or August. Its root is large and woody, a decoction or extract of which is esteemed in Switzerland very useful for curing the rickets. Fronds several, 3 or 4 feet high, not unlike in hue and figure to young ash trees, as Gerarde observes; they are bipinnate, the leaflets alternate or opposite occasionally, finely ferrated, and often slightly lobed at the base. The clusters are thrice compounded, bearing roundish tufts of innumerable bivalve capsules, full of minute seeds. A magnified figure of the capsule has, by accident, been omitted in our plate, but we shall take a future opportunity of exhibiting the generic character.

Ray, in the 1st edition of his *Synopsis*, p. 26, has described and figured young plants of this species as a new fern, by the name of *Hemionitis pumila trifolia vel quinquesolia maritima*.

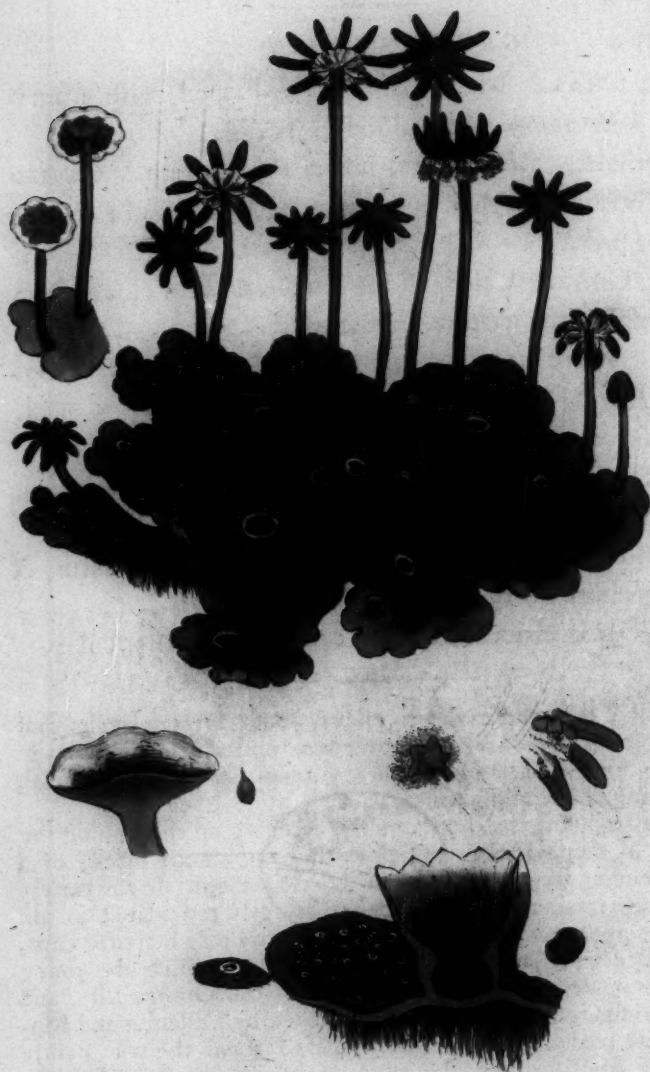
MARCHANTIA polymorpha.

Star-headed Marchantia.



VERY common in damp places, about fountains, walls, and
 other moist places, in the shade. It is a very common
 liverwort, and is found in all parts of the British Isles,
 growing on the ground, or on the walls of houses, or on the
 rocks, or on the trunks of trees, or on the stems of plants.
 The thallus is composed of a single layer of cells, and is
 divided into a number of small, rounded lobes, which are
 arranged in a regular pattern. The lobes are connected by
 a network of veins, which are visible on the surface. The
 thallus is green, and is very tender. It is a very common
 liverwort, and is found in all parts of the British Isles,
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 rocks, or on the trunks of trees, or on the stems of plants.





In Vigna. Reddish, T. L. L. L. L.

MARCHANTIA polymorpha.

Star-headed Marchantia.

CRYPTOGAMIA Alga.

GEN. CHAR. Male. *Calyx* salver-shaped, with numerous *antheræ* imbedded in its disk.

Female. *Cal.* peltate, flowering beneath. *Capsules* bursting at their summit. *Seeds* attached to elastic fibres.

SPEC. CHAR. *Calyx* of the female flowers cloven into about ten narrow segments.

SYN. *Marchantia polymorpha.* *Linn. Sp. Pl.* 1603.
Huds. Fl. An. 519. *With. Bot. Arr. v.* 3. 158.
Sibth. Oxon. 313. *Relb. Cant.* 420.

Lichen petræus latifolius, five *Hepatica fontana.*
Raii Syn. 115.

L. fontanus major, stellatus æquè, ac umbellatus, et cyathophorus. *Dill. Musc.* 523. t. 76. f. 6.

β *L. domesticus minor*, &c. *Ibid.* 527. t. 77. f. 7.

VERY common in damp places, about springs, wells, and shady moist court-yards. Gardeners find it troublesome in over-running the mould of their garden-pots. It is perennial; flowering about midsummer.

The fronds spread horizontally, creeping on the ground by means of dense fibrous radicles; they are bluntly lobed, of a dark shining green, and more or less reticulated. In the variety β they are smaller, more opaque, and scarcely reticulated at all. Their upper surface is studded with several pale dentated cups, half-filled with little green lenticular bodies, which are young plants, analogous to the stem-bulbs of the Orange Lily, and other viviparous plants, though mistaken by Dillenius and Linnæus for seeds. Hedwig has first ascertained the true nature of the fructification, the parts of which are indeed faithfully delineated by Dillenius, but he did not understand their œconomy. We have followed Hedwig's opinion, confirmed by observation, in the character given above. The hairs with which the seeds are connected appear from their elasticity to have a kind of spontaneous motion, and are well worth notice.

MARCHANTIA polymorpha.

Star-branched Marchantia.

CRYPTOGAMIA. Age.

Gen. CHAR. Male. Caps. narrow-shaped, with numerous anthers imbedded in its disk.
 Female. Caps. bell-shaped, flowering beneath. Capsules bearing several numerous seeds attached to elastic fibres.
 Spec. CHAR. Calyx of the female flower cloven into about ten narrow segments.
 Syn. Marchantia polymorpha. Linn. 23. Pl. 1802.
 IM. PL. 2. 124. 1802. Pl. 2. 124.
 Spec. CHAR. 23. Pl. 1802.
 Lichen. 23. Pl. 1802.
 L. 23. Pl. 1802.
 Cystidophora. 23. Pl. 1802.
 23. Pl. 1802.

VERY common in damp places, about springs, wells, and had. most common. Confirms and it resembles in over-running the mould of their garden-pots. It is perennial, flowering about midsummer.
 The fronds spread horizontally, creeping on the ground by means of slender runners, which are minutely lobed, of a dark shining green, and more or less revolute. In the variety a greyish-green, and the leaves revolute at all. Their upper surface is 2-lobed, with several pale horizontal cups, half filled with water, which are young plants, and are the source of the Orange Lake, and other numerous springs, and are by themselves and the mosses for water. The way has been shown the true nature of the first frond, the parts of which are named and fully described by Willmann, but he did not understand their economy. We have followed Willmann's opinion, contained by observation in the character given above. The hairs with which the fronds are connected appear from their elasticity to have a kind of spontaneous motion, and are well worth notice.

LECTURE Notes

1841-1842

1. The first lecture was given by Mr. [Name]

on the subject of the [Topic]

The first lecture was given by Mr. [Name] on the subject of the [Topic]

The first lecture was given by Mr. [Name] on the subject of the [Topic]

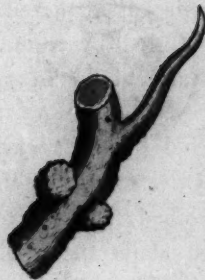
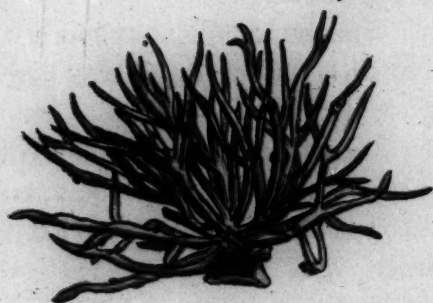


The first lecture was given by Mr. [Name] on the subject of the [Topic]



The first lecture was given by Mr. [Name] on the subject of the [Topic]

The first lecture was given by Mr. [Name] on the subject of the [Topic]



LICHEN Roccella.

*Dyer's Lichen, or Orchall.*CRYPTOGAMIA *Alga.*

GEN. CHAR. Male, scattered warts.

Female, smooth shields or tubercles, in which the seeds are imbedded.

SPEC. CHAR. Shrubby, solid, cylindrical, without leaves, but little branched. Tubercles alternate, powdery.

SYN. Lichen Roccella. *Linn. Sp. Pl.* 1622. *Dicks. Crypt. fasc.* 3. 19. *Smith's Tour*, v. 1. 198.Coralloides corniculatum fasciculare tinctorium, Fuciteretis facie. *Dill. Musc.* 120. t. 17. f. 39.

MR. DICKSON has lately admitted this Lichen as a British native, on the authority of Mr. Goffelin, who found it in Guernsey. Our specimen was gathered by Lord Viscount Lewisham on Portland Island. It grows on maritime rocks, very common in the Mediterranean and the Levant. Linnæus had it too from China.

Its solid base is firmly fixed to the rocks, and produces a thick tuft of worm-like stems, round, acutely pointed, often curved, more or less branched, smooth, of a white, gray or brownish hue, and studded about their upper part with scattered tubercles, replete with white powder, which some have thought the seeds. Dillenius seems to think these tubercles may be only the spots where scutellæ have stood; in fact, the fructification of this species is not well known.

As an article of commerce it is of very great importance, being extremely valuable for dyeing wool or silk any shade of purple or crimson. For this purpose it is steeped in volatile alkali, commonly distilled from urine. Dillenius mentions 80l. sterling per ton as a great price for Orchall, being almost as much again as it cost in the Archipelago, so much better a judge was he of Lichens than of the comfortable emoluments of trade! It has since been sold at 1000l. in times of scarcity.

[11]
EUSSE aurea.

Golden Pigeon.

CARPENTER'S

Box Case. - When the quantity of boxes is
large, provide a box for each, or branched, closely
packed, and of a large-colored
Box. - The box is made of wood, and is
of a size to hold the boxes of the
box.

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large, provide a box for each, or branched, closely
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Box. - The box is made of wood, and is
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Box. - The box is made of wood, and is
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box.



BYSSUS aurea.

*Golden Byffus.**CRYPTOGAMIA Alge.*

GEN. CHAR. Whole plant consisting of down or simple powder. *Frustrification* unknown.

SPEC. CHAR. Filaments simple or branched, closely matted together, powdery, orange-coloured.

SYN. Byffus aurea. *Linn. Sp. Pl.* 1638. *Huds. Fl. An.* 606. *With. Bot. Arr. v.* 3. 276. *Relb. Cant.* 446. *Sibth. Oxon.* 338.

B. aureus Derbientis humifusus. *Raii Syn.* 56.

B. petræa crocea, glomerulis lanuginosis. *Dill. Musc.* 8. t. 1. f. 16.

THIS Byffus thrives best in a pure air, always in moist shady places; and although most abundant and luxuriant on the calcareous rocks and banks of Derbyshire, yet it is found occasionally on damp limestone buildings, and in chalk-pits in other parts of England. We procured it plentifully from a chalk-pit near Gad's-hill, Kent, in June last.

It often uniformly covers a space of many inches in diameter, and looks like a fine piece of orange-coloured cloth or velvet; sometimes the surface is more tufted, broken and irregular, and it frequently grows in a straggling manner, scattered over mosses. When of any considerable size, it is a very conspicuous and beautiful object. Its fine colour is not however permanent; for although this colour does not change (as authors report) immediately upon drying, but generally lasts till 5 or 6 weeks afterwards, yet at that period, or sometimes earlier, the whole plant becomes of a greenish gray, which never changes. The crust is often $\frac{1}{8}$ of an inch in thickness, and, from a curious specimen in Dr. Smith's possession, appears to grow in a concentric manner. The fibres are very fine, thick set, erect, mostly branched, and strongly matted together.



No 1 1794. Pittobdy F. Herb. Lnd.

PYROLA rotundifolia.

Round-leaved Winter-green.

DECANDRIA Monogynia.

GEN. CHAR. Cal. 5-cleft. Petals 5. Caps. 5-celled, bursting at the angles.

SPEC. CHAR. Stamina pointing upwards, style downwards.

SYN. Pyrola rotundifolia. Linn. Sp. Pl. 567. Hudsf. Fl. An. 175. With. Bot. Arr. 429.

Pyrola. Raii Syn. 363.

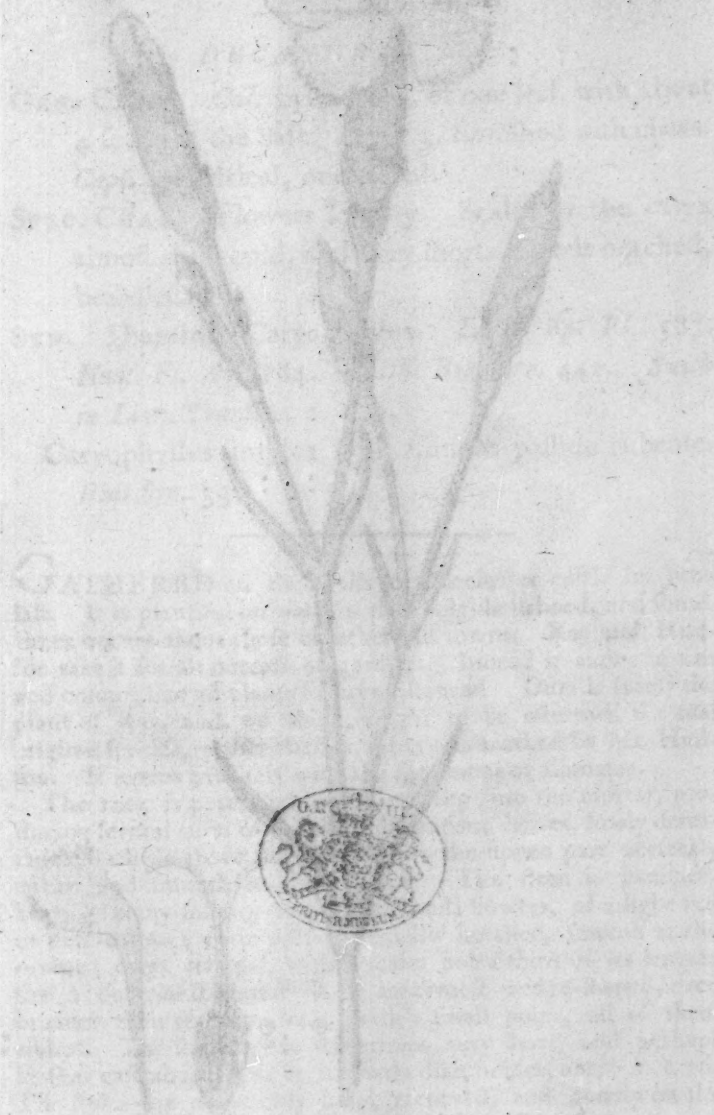
WE have already given the figures of two rare species of this pretty genus, and under the last (t. 158) promised as soon as possible to exhibit *P. rotundifolia*, which we are now enabled to do by means of a specimen gathered by the accurate and indefatigable Mr. Wigg, among bushes on a common at Bradwell not far from Yarmouth, where the plant grows sparingly, and is elsewhere, even among its favourite mountains of the north, very rarely to be found. It flowers mostly about July, and is perennial.

The root and leaves agree very much with those of *P. minor*, except that the latter, as well as the flowers, are larger. The calyx is longer, and more lanceolate, but the essential difference consists in the stamina being all bent, as if for shelter, towards the upper side of the flower, while the style (much longer than that of *P. minor*) is curved downwards in as singular a manner, and again recurved to catch the pollen. The stigma terminates in five blunt tubercles.

TYROLA

DIANTHUS barbatus

Corn. Barb. L.





Dianthus barbatus J. Rostk & Schmidt.

DIANTHUS Caryophyllus.

*Clove Pink, or Carnation.**DECANDRIA Digynia.*

GEN. CHAR. *Cal.* cylindrical, of one leaf, with about 4 scales at the base. *Petals* 5, furnished with claws. *Capf.* cylindrical, one-celled.

SPEC. CHAR. Flowers solitary. Scales of the calyx almost rhomboid, and very short. Petals notched, beardless.

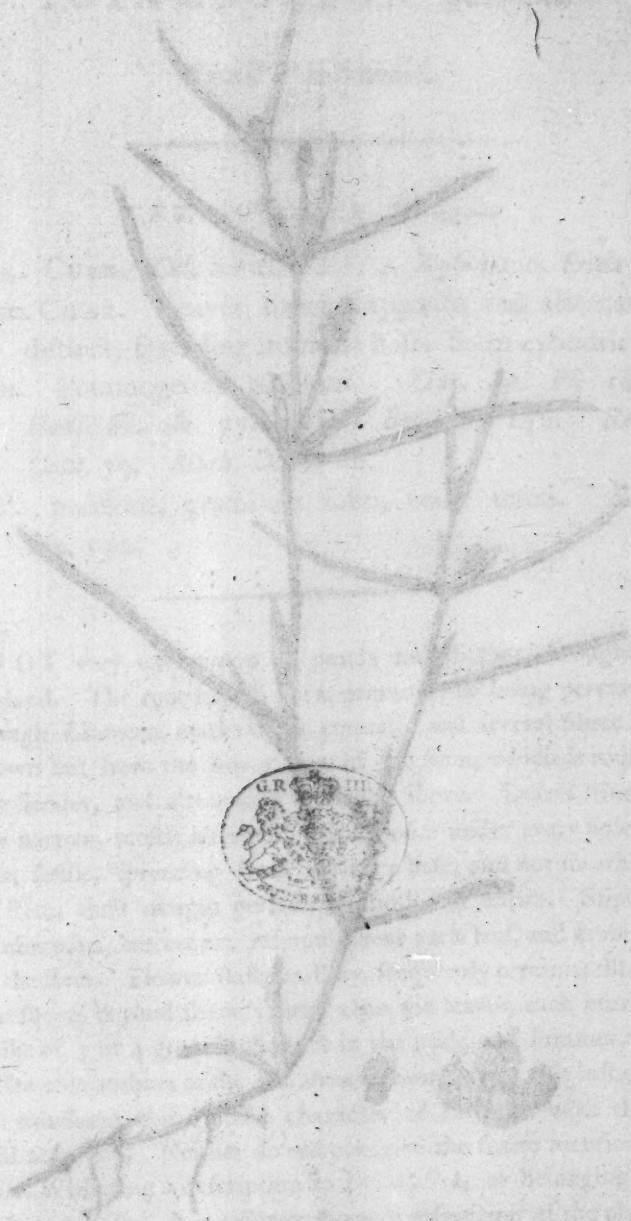
SYN. *Dianthus Caryophyllus.* *Linn. Sp. Pl.* 587. *Huds. Fl. An.* 184. *With. Bot. Arr.* 441. *Smith in Linn. Transf.* v. 2. 299.

Caryophyllus simplex flore minore pallido rubente.
Raii Syn. 336.

GATHERED on the walls of Rochester castle in June last. It is plentiful on walls in that neighbourhood, and sometimes occurs about those of other old towns. Ray and Hudson take it for an outcast of gardens. Indeed it varies in size and colour, like all plants so circumstanced. Ours is surely the plant of Ray, and, we think, ought to be esteemed the real original species, rather than a variety as marked by Mr. Hudson. It agrees precisely with the specimens of Linnæus.

The root is perennial, and runs deep into the mortar, producing several tufts of channelled glaucous leaves, finely denticulated a little above the base, but in the upper part perfectly entire and smooth at the margin. The stem is panicled, bearing many solitary (not fasciculated) flowers, of a light red or flesh-colour; their petals unequally notched, smooth at the orifice; calyx striated, with 4 scales not a third of its length, the 2 outermost rhomboid, 2 innermost wedge-shaped, even broader than they are long, with a small point, all of them ribbed. The stamina are sometimes very short, and perhaps in that case abortive, as in *Arenaria dianthoides*, *Smith Ic. t.* 16. The styles are commonly long, recurved, and downy on the upper side.

What Mr. Doody meant by a "hairy species, frequent in Kent, and found likewise in other places," distinct from the above, we are at a loss to determine.





Nov. 1 1894. Peltandra by J. F. Smith, London.

POTAMOGETON pufillum.

Small Pond-weed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Cal.* none. *Petals* 4. *Style* none. *Seeds* 4.

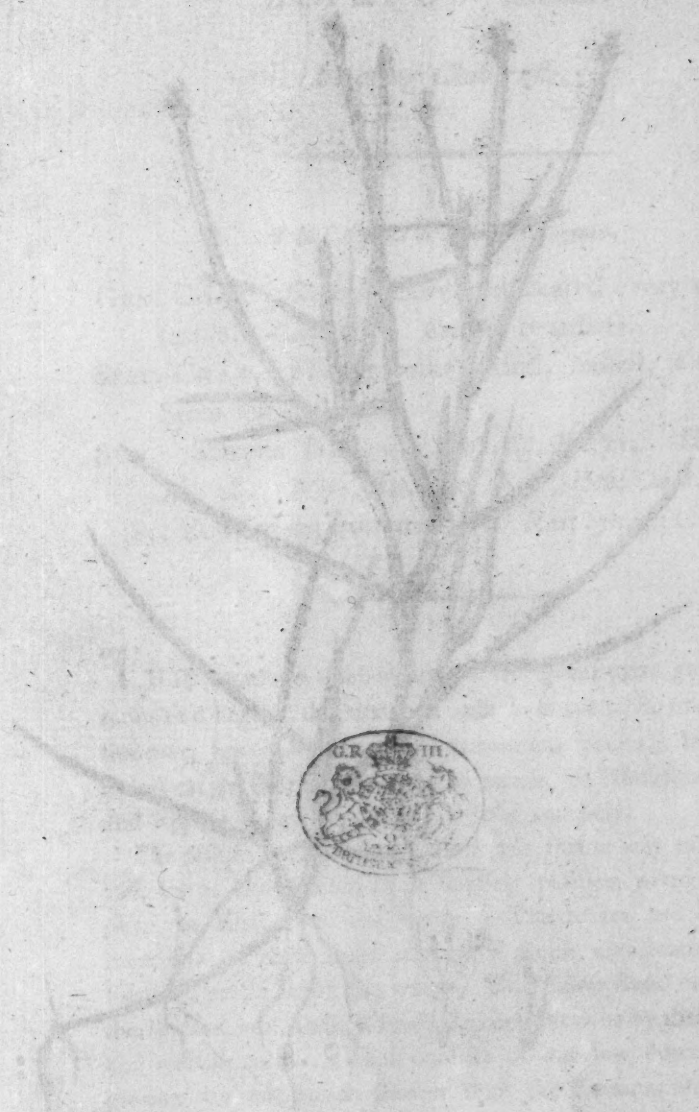
SPEC. CHAR. Leaves linear, opposite and alternate, distinct, spreading from the base. Stem cylindrical.

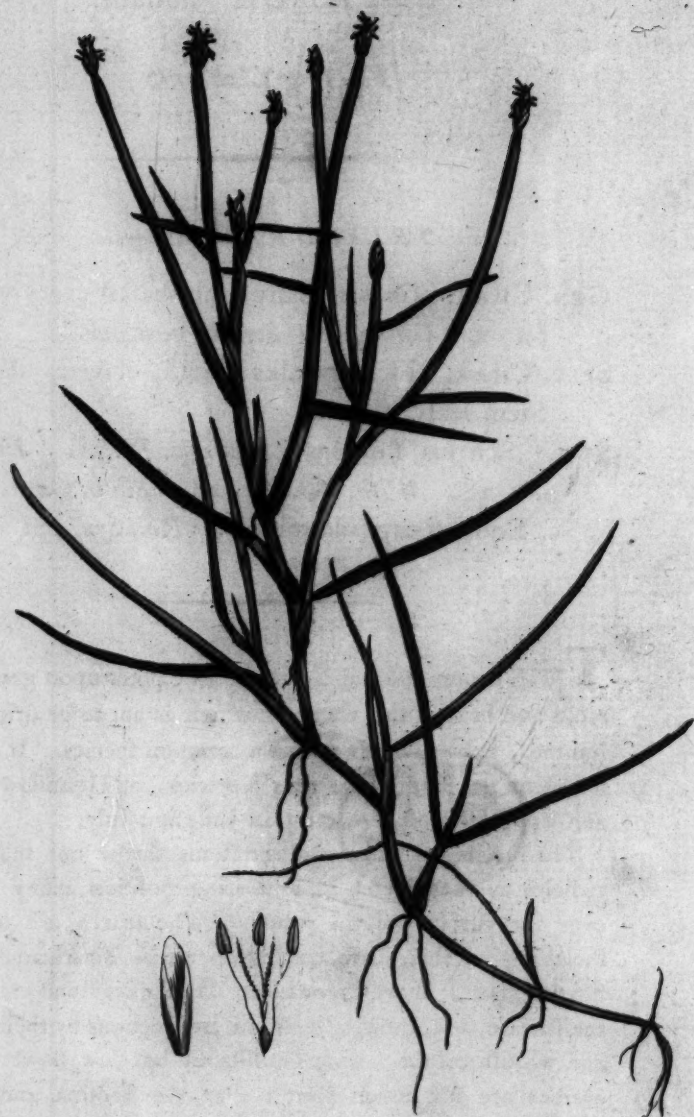
SYN. Potamogeton pufillum. *Linn. Sp. Pl.* 184.*Huds. Fl. An.* 77. *With. Bot. Arr.* 176. *Relb.**Cant.* 73. *Sibth. Oxon.* 66.P. pufillum, gramineo folio, caule tereti. *Raii**Syn.* 150.

NOT very uncommon in ponds and ditches throughout England. The root has all the appearance of being perennial (though Linnæus marks it as annual), and several fibres are thrown out from the lower part of the stem, which is round, very slender, and alternately branched above. Leaves linear, very narrow, mostly alternate, but opposite under every flower-stalk, sessile, spreading from the very base, and not sheathing the stem, their margin perfectly smooth and entire. Stipulæ membranous, lanceolate, inserted above each leaf, and embracing the stem. Flower-stalks axillary, frequently terminal till the stem shoots beyond them, shorter than the leaves, each bearing a spike of 3 or 4 greenish flowers in the middle of summer.

The able authors of the *Bot. Arrangement* have in this instance not translated the specific character of Linnæus with their usual accuracy. Neither do we conceive the scales mentioned in Dr. Withering's description to be *bractææ*, or belonging to the flower-stalks; it is evident, from an inspection of the plant, they are real *stipulæ intrafoliaceæ*.

ST. JOHN'S BERRY





Nov. 1, 1924. Publ. 156. By J. H. Power by Lind. n

SCIRPUS fluitans.

Floating Club-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* chaffy, imbricated every way, all fertile. *Cor.* none. *Seed* 1, beardless.

SPEC. CHAR. Flower-stalks round, naked, alternate. Stem leafy, flaccid,

SYN. *Scirpus fluitans*, *Linn. Sp. Pl.* 71. *Huds. Fl.*

An. 18. *With. Bot. Arr.* 48. *Sibth. Oxon.* 23.

Sc. Equiseti capitulo minori. Raii Syn. 431.

THIS occurs in ditches, and in little pools upon grassy commons and heaths, the water of which is apt to be dried up in summer, but is by no means a common species. It may be found on St. Faith's bogs near Norwich, on Hounslow Heath, and Epping Forest, flowering in June and July.

The root is perennial, and the stems throw out many long radicles as they stretch in a floating position many together over the surface of the water. The leaves are alternate, sheathing at their base, and then much divaricated, partly floating, partly above the water. The spikes stand erect above the surface, and, though small, are conspicuous by their number and whitish colour. Each consists of but few flowers, whose glumes are not much shorter than the stamina, and the two lowermost are particularly large, so as to appear like bractæ; but they have always parts of fructification belonging to them. The stigmata are only two in number.

SCIRPUS

Planting Club

TRINIDAD

GEN. CHAR. Glumes thickly imbricated every way, all
ferrile. Co. none. Siliques, beakless.
SPEC. CHAR. Flower stalks round, naked, alternate
Stem leafy, glaucous.
SYN. Scirpus fluitans, Lam. Sp. Pl. 71. Barb. Fl.
N. 18. With. Bot. 48. Sibth. Oxon. 13.
Sc. pedunculatus capitato-minor, Kunth Syn. 431.

THIS occurs in ditches, and in little pools upon grassy com-
mons, and besides the water of which is apt to be dried up in
summer, it is no means a common species. It may be
found in a marsh near Norwich, on Houlston Heath,
and flowering in June and July.
The plant is a loose, spongy mass of many long
radicles, and the leaves grow out many long
over the surface of the water. The leaves are alternate,
sheathing at their base, and when much distended, partly
erect, partly above the water. The spikes stand erect above
the surface, and though small, are conspicuous by their number
and whitish colour. Each consists of but few flowers, while
others are not much shorter than the laminae, and the two
lowermost are particularly large, so as to appear like bracts;
but they have always parts of fructification belonging to them.
The stigmas are only two in number.



SYSTEMATICAL INDEX

TO

V O L. III.

<i>Diandria.</i>			<i>Tetradynamia.</i>		
P			Tab.		
INGUICULA lusitanica	-	145	Lepidium latifolium	-	182
Salvia pratensis	-	153	Arabis Turrita	-	178
— verbenaca	-	154			
<i>Triandria.</i>			<i>Monadelphbia.</i>		
Scirpus fluitans	-	216	Geranium rotundifolium	-	157
<i>Tetrandria.</i>			Althæa officinalis	-	147
Plantago maritima	-	175	<i>Diadelphbia.</i>		
Sagina ceratoides	-	166	Genista pilosa	-	208
Potamogeton perfoliatum	-	168	Lathyrus palustris	-	169
— pufillum	-	215	Astragalus glycyphyllos	-	203
<i>Pentandria.</i>			Trifolium medium	-	190
Echium vulgare	-	181	<i>Syngenesia.</i>		
Lyfimachia thyriflora	-	176	Crepis biennis	-	149
Herniaria glabra	-	206	Picris hieracioides	-	196
Caucalis daucoides	-	197	Carduus pratensis	-	177
— latifolia	-	193	— acaulis	-	161
— nodosa	-	199	Cineraria palustris	-	151
Sium latifolium	-	204	— integrifolia	-	152
<i>Hexandria.</i>			<i>Monoeceia.</i>		
Frankenia lævis	-	205	Urtica pilulifera	-	148
<i>Decandria.</i>			<i>Dioecia.</i>		
Pyrola rotundifolia	-	213	Salix repens	-	183
— minor	-	158	<i>Polygamia.</i>		
— uniflora	-	146	Atriplex laciniata	-	165
Saxifraga stellaris	-	167	<i>Cryptogamia.</i>		
Dianthus Caryophyllus	-	214	Osmunda regalis	-	209
Cucubalus Behen	-	164	Asplenium Ruta-muraria	-	150
Arenaria peploides	-	189	Cyathea incisa	-	163
Sedum rupestre	-	170	Hymenophyllum Tunbridgensæ	-	162
— anglicum	-	171	Bryum rigidum	-	180
<i>Dodecandria.</i>			— calcareum	-	191
Euphorbia paralia	-	195	Hypnum intricatum	-	202
<i>Icofandria.</i>			Jungermannia pinguis	-	185
Pyrus Malus	-	179	— multifida	-	186
Rosa spinosissima	-	187	Marchantia polymorpha	-	210
— arvensis	-	188	Lichen sanguinarius	-	155
Comarum palustre	-	172	— immersus	-	193
<i>Polyandria.</i>			— tartareus	-	156
Chelidonium hybridum	-	201	— parietinus	-	194
Nymphaea lutea	-	159	— uncialis	-	174
— alba	-	160	— rangiferinus	-	173
Helleborus viridis	-	200	— Roccella	-	211
<i>Didynamia.</i>			Byffus purpurea	-	192
Galeopsis Tetrahit	-	207	— aurea	-	212
Orobanchæ ramofa	-	184			

SYSTEMATICAL INDEX

505

III 107

Tab.	Species	Tab.	Species
175	<i>Leptanthus latifolius</i>	175	<i>Leptanthus latifolius</i>
176	<i>Arctostaphylos</i>	176	<i>Arctostaphylos</i>
177	<i>Arctostaphylos</i>	177	<i>Arctostaphylos</i>
178	<i>Arctostaphylos</i>	178	<i>Arctostaphylos</i>
179	<i>Arctostaphylos</i>	179	<i>Arctostaphylos</i>
180	<i>Arctostaphylos</i>	180	<i>Arctostaphylos</i>
181	<i>Arctostaphylos</i>	181	<i>Arctostaphylos</i>
182	<i>Arctostaphylos</i>	182	<i>Arctostaphylos</i>
183	<i>Arctostaphylos</i>	183	<i>Arctostaphylos</i>
184	<i>Arctostaphylos</i>	184	<i>Arctostaphylos</i>
185	<i>Arctostaphylos</i>	185	<i>Arctostaphylos</i>
186	<i>Arctostaphylos</i>	186	<i>Arctostaphylos</i>
187	<i>Arctostaphylos</i>	187	<i>Arctostaphylos</i>
188	<i>Arctostaphylos</i>	188	<i>Arctostaphylos</i>
189	<i>Arctostaphylos</i>	189	<i>Arctostaphylos</i>
190	<i>Arctostaphylos</i>	190	<i>Arctostaphylos</i>
191	<i>Arctostaphylos</i>	191	<i>Arctostaphylos</i>
192	<i>Arctostaphylos</i>	192	<i>Arctostaphylos</i>
193	<i>Arctostaphylos</i>	193	<i>Arctostaphylos</i>
194	<i>Arctostaphylos</i>	194	<i>Arctostaphylos</i>
195	<i>Arctostaphylos</i>	195	<i>Arctostaphylos</i>
196	<i>Arctostaphylos</i>	196	<i>Arctostaphylos</i>
197	<i>Arctostaphylos</i>	197	<i>Arctostaphylos</i>
198	<i>Arctostaphylos</i>	198	<i>Arctostaphylos</i>
199	<i>Arctostaphylos</i>	199	<i>Arctostaphylos</i>
200	<i>Arctostaphylos</i>	200	<i>Arctostaphylos</i>

ALPHABETICAL INDEX

TO

VOL. III.

A		Tab.			Tab.
ALTHÆA	officinalis	- 147	Lepidium	latifolium	- 182
Arabis	Turrita	- 178	Lichen	immerfus	- 193
Arenaria	peploides	- 189	-----	parietinus	- 194
Asplenium	Ruta-muraria	- 150	-----	rangiferinus	- 173
Astragalus	glyciphyllus	- 203	-----	Rocella	- 211
Atriplex	laciniata	- 165	-----	sanguinarius	- 155
Bryum	calcareum	- 191	-----	tartareus	- 156
-----	rigidum	- 180	-----	uncialis	- 174
Byssus	aurea	- 212	Lyfimachia	thyrsiflora	- 176
-----	purpurea	- 192	Marchantia	polymorpha	- 210
Carduus	acaulis	- 161	Nymphaea	alba	- 160
-----	pratensis	- 177	-----	lutea	- 159
Caulalis	daucoides	- 197	Orobanche	ramosa	- 184
-----	latifolia	- 198	Osmunda	regalis	- 209
-----	nodosa	- 199	Picris	hieracioides	- 196
Chelidonium	hybridum	- 201	Pinguicula	lusitanica	- 145
Cineraria	integrifolia	- 152	Plantago	maritima	- 175
-----	palustris	- 151	Potamogeton	perfoliatum	- 168
Comarum	palustre	- 172	-----	puffillum	- 215
Crepis	biennis	- 149	Pyrola	minor	- 158
Cucubalus	Behen	- 164	-----	rotundifolia	- 213
Cyathea	incisa	- 163	-----	uniflora	- 146
Dianthus	Caryophyllus	- 214	Pyrus	Malus	- 179
Echium	vulgare	- 181	Rosa	arvensis	- 188
Euphorbia	paralia	- 195	-----	spinosissima	- 187
Frankenia	laevis	- 205	Sagina	cerastoides	- 166
Galeopsis	Tetrahit	- 207	Salix	repens	- 183
Genista	pilosa	- 208	Salvia	pratensis	- 153
Geranium	rotundifolium	- 157	-----	verbenaca	- 154
Helleborus	viridis	- 200	Saxifraga	stellaria	- 167
Herniaria	glabra	- 206	Scirpus	fluitans	- 216
Hymenophyllum	Tunbridgensc	- 162	Sedum	anglicum	- 171
Hypnum	intricatum	- 202	-----	rupestre	- 170
Jungermannia	multifida	- 186	Sium	latifolium	- 204
-----	pinguis	- 185	Trifolium	medium	- 190
Lathyrus	palustris	- 169	Urtica	pilulifera	- 148

Note, The *Orobanche ramosa*, tab. 184, is drawn from a specimen whose root had been wounded by some insect, and is therefore more swelled than in its natural state. Mr. Woodward.

ALPHABETICAL INDEX

VOL. III.

142	<i>Antennaria dioica</i>	142	<i>Antennaria dioica</i>
143	<i>Antennaria dioica</i>	143	<i>Antennaria dioica</i>
144	<i>Antennaria dioica</i>	144	<i>Antennaria dioica</i>
145	<i>Antennaria dioica</i>	145	<i>Antennaria dioica</i>
146	<i>Antennaria dioica</i>	146	<i>Antennaria dioica</i>
147	<i>Antennaria dioica</i>	147	<i>Antennaria dioica</i>
148	<i>Antennaria dioica</i>	148	<i>Antennaria dioica</i>
149	<i>Antennaria dioica</i>	149	<i>Antennaria dioica</i>
150	<i>Antennaria dioica</i>	150	<i>Antennaria dioica</i>
151	<i>Antennaria dioica</i>	151	<i>Antennaria dioica</i>
152	<i>Antennaria dioica</i>	152	<i>Antennaria dioica</i>
153	<i>Antennaria dioica</i>	153	<i>Antennaria dioica</i>
154	<i>Antennaria dioica</i>	154	<i>Antennaria dioica</i>
155	<i>Antennaria dioica</i>	155	<i>Antennaria dioica</i>
156	<i>Antennaria dioica</i>	156	<i>Antennaria dioica</i>
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158	<i>Antennaria dioica</i>	158	<i>Antennaria dioica</i>
159	<i>Antennaria dioica</i>	159	<i>Antennaria dioica</i>
160	<i>Antennaria dioica</i>	160	<i>Antennaria dioica</i>
161	<i>Antennaria dioica</i>	161	<i>Antennaria dioica</i>
162	<i>Antennaria dioica</i>	162	<i>Antennaria dioica</i>
163	<i>Antennaria dioica</i>	163	<i>Antennaria dioica</i>
164	<i>Antennaria dioica</i>	164	<i>Antennaria dioica</i>
165	<i>Antennaria dioica</i>	165	<i>Antennaria dioica</i>
166	<i>Antennaria dioica</i>	166	<i>Antennaria dioica</i>
167	<i>Antennaria dioica</i>	167	<i>Antennaria dioica</i>
168	<i>Antennaria dioica</i>	168	<i>Antennaria dioica</i>
169	<i>Antennaria dioica</i>	169	<i>Antennaria dioica</i>
170	<i>Antennaria dioica</i>	170	<i>Antennaria dioica</i>
171	<i>Antennaria dioica</i>	171	<i>Antennaria dioica</i>
172	<i>Antennaria dioica</i>	172	<i>Antennaria dioica</i>
173	<i>Antennaria dioica</i>	173	<i>Antennaria dioica</i>
174	<i>Antennaria dioica</i>	174	<i>Antennaria dioica</i>
175	<i>Antennaria dioica</i>	175	<i>Antennaria dioica</i>
176	<i>Antennaria dioica</i>	176	<i>Antennaria dioica</i>
177	<i>Antennaria dioica</i>	177	<i>Antennaria dioica</i>
178	<i>Antennaria dioica</i>	178	<i>Antennaria dioica</i>
179	<i>Antennaria dioica</i>	179	<i>Antennaria dioica</i>
180	<i>Antennaria dioica</i>	180	<i>Antennaria dioica</i>
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182	<i>Antennaria dioica</i>	182	<i>Antennaria dioica</i>
183	<i>Antennaria dioica</i>	183	<i>Antennaria dioica</i>
184	<i>Antennaria dioica</i>	184	<i>Antennaria dioica</i>
185	<i>Antennaria dioica</i>	185	<i>Antennaria dioica</i>
186	<i>Antennaria dioica</i>	186	<i>Antennaria dioica</i>
187	<i>Antennaria dioica</i>	187	<i>Antennaria dioica</i>
188	<i>Antennaria dioica</i>	188	<i>Antennaria dioica</i>
189	<i>Antennaria dioica</i>	189	<i>Antennaria dioica</i>
190	<i>Antennaria dioica</i>	190	<i>Antennaria dioica</i>
191	<i>Antennaria dioica</i>	191	<i>Antennaria dioica</i>
192	<i>Antennaria dioica</i>	192	<i>Antennaria dioica</i>
193	<i>Antennaria dioica</i>	193	<i>Antennaria dioica</i>
194	<i>Antennaria dioica</i>	194	<i>Antennaria dioica</i>
195	<i>Antennaria dioica</i>	195	<i>Antennaria dioica</i>
196	<i>Antennaria dioica</i>	196	<i>Antennaria dioica</i>
197	<i>Antennaria dioica</i>	197	<i>Antennaria dioica</i>
198	<i>Antennaria dioica</i>	198	<i>Antennaria dioica</i>
199	<i>Antennaria dioica</i>	199	<i>Antennaria dioica</i>
200	<i>Antennaria dioica</i>	200	<i>Antennaria dioica</i>

Notes: The numbers in the left margin are given from a specimen which was
not seen by the author, and a specimen was taken from it in 1871.

I N D E X

OF THE ENGLISH NAMES

IN VOL. III.

	Tab.		Tab.
A PPLE, wild	179	Lichen, tartareous	156
Broom-rape, branched	184	— yellow wall	194
Bryum, chalk	191	Liquorice, wild	203
— rigid	180	Loofestriſe, tufted	176
Buglofs, viper's	181	Maiden-hair, white	150
Butterwort, pale	145	Mallow, marſh	147
Byſſus, golden	212	Marchantia, ſtar-headed	210
— purple	192	Milk-vetch, ſweet	203
Campion, bladder	164	Nettle, roman	148
Carnation	214	Orache, froſted ſea	165
Caucalis, broad-leaved	198	Orchall	211
— knotted	199	Oſmund royal	209
— ſmall	197	Ox-tongue, hawkweed	196
Chickweed, ſea	189	Pardley, baſtard ſmall	197
Cinquefoil, marſh	172	Pardſnep, water	204
Clary, meadow	153	Pea, marſh everlaſting	169
— wild	154	Pearl-wort, mouſe-ear	166
Club-ruſh, floating	216	Pepper-wort, broad-leaved	182
Crab-tree	179	Pink, clove	214
Cranes-bill, dove's-foot	157	Plantain, ſea	175
Creſs, wall	178	Pond-weed, perfoliate	168
Cup-fern, laciniated	163	— ſmall	215
Fern, flowering	209	Rofe, burnet	187
Filmy-leaf, Tunbridge	162	— white dog	188
Flea-wort, marſh	151	Rue, wall	150
— mountain	152	Rupture-wort, ſmooth	206
Green-weed, hairy	208	Saxifrage, hairy	167
Hawkweed, rough ſuccory	149	Spurge, ſea	195
Heath, ſmooth ſea	205	Stone-crop, english	171
Hellebore, green	200	— rock	170
Hemp-nettle, red	207	Thiſtle, dwarf,	161
Horned-poppy, violet	201	— meadow	177
Hypnum, matted	202	Trefoil, zigzag	190
Jungermannia, many-lobed	186	Water-lily, white	160
— ſlippery	185	— yellow	159
Lichen, dyer's	211	Willow, creeping dwarf	183
— rein-deer	173	Winter-green, leſſer	158
— ſanguineous	155	— round-leaved	213
— ſhort perforated	174	— ſingle-flowered	146
— ſunk	193		

OF THE ENGLISH NAMES
INDEX

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